FOUNDED IN 1856

RAILWAY AGE

THE STANDARD RAILROAD WEEKLY FOR ALMOST A CENTURY

MAY 14, 1951

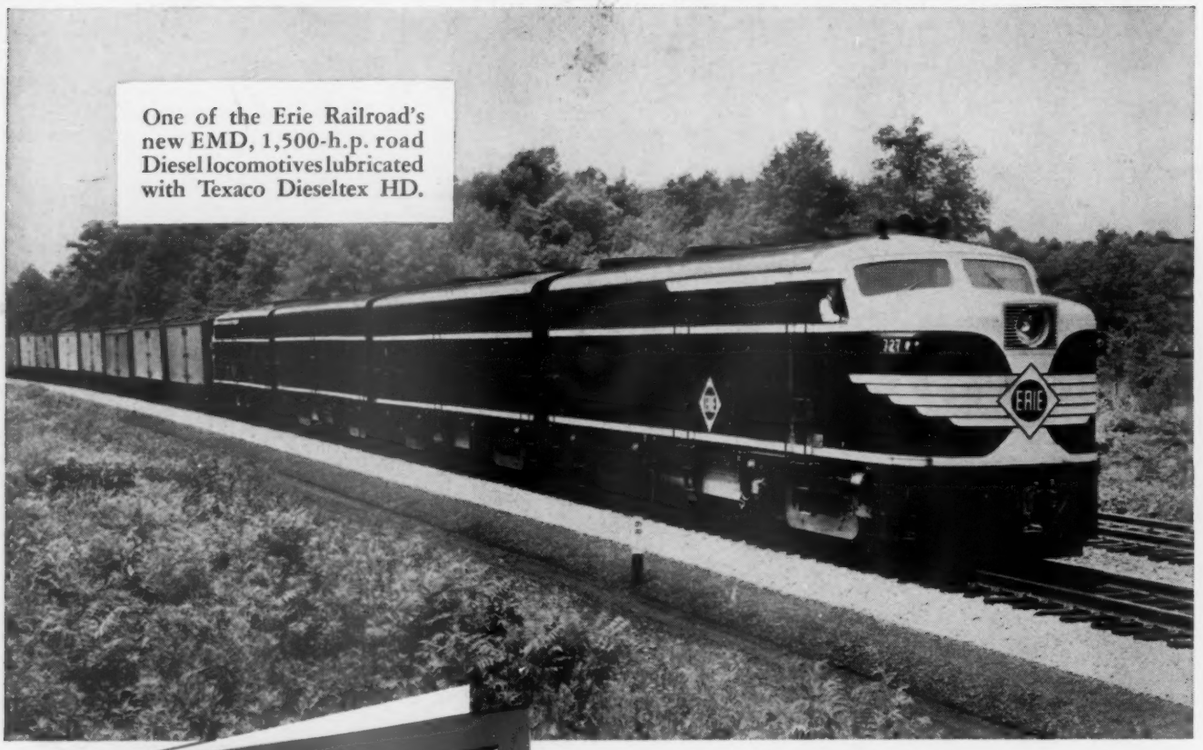
1851 100th ANNIVERSARY 1951
Great Lakes to the Sea
Erie Railroad

Erie Railroad's through passenger service between Chicago and Jersey City has been completely dieselized since 1947 with General Motors locomotives. Accumulating over a half-million miles a month in passenger, freight and switching service, 153 GM Diesel units are showing an annual return on investment of better than 25%. Electro-Motive congratulates the Erie on its 100-year tradition of progress—confident in the belief that the second century will be even more successful than the first.

ELECTRO-MOTIVE DIVISION
GENERAL MOTORS • LA GRANGE, ILLINOIS
HOME OF THE DIESEL LOCOMOTIVE

In Canada: GENERAL MOTORS DIESEL, LTD., LONDON, ONTARIO

GENERAL MOTORS LOCOMOTIVES



One of the Erie Railroad's new EMD, 1,500-h.p. road Diesel locomotives lubricated with Texaco Dieseltex HD.

Congratulations to the Erie Railroad on its 100th Birthday

To the chorus of congratulations on the Erie Railroad's centennial, add the voice of Texaco. The lubricants that are "first with the railroads*" are happy to salute the railroad that's "first in freight."

Texaco's association with the Erie has been long and pleasant . . . and Texaco is proud that new Erie Diesel locomotives like the one illustrated are being lubricated with *Texaco Dieseltex HD* — the railroad Diesel engine lubricating oil that keeps engines cleaner, helps reduce maintenance costs and fuel consumption. These, of course, are the reasons why —

***More railroad Diesel locomotives in the U. S. are lubricated with Texaco than with any other brand.**

Join the Erie and other great railroads in the benefits that Texaco can bring. Texaco Diesel lubrication and service are available in all 48 States . . . and a Texaco representative will gladly give you full details. Just call the nearest Railway Sales office listed, or write The Texas Company, *Railway Sales Division,* 135 East 42nd Street, New York 17, N. Y.

NEW YORK ★ CHICAGO ★ SAN FRANCISCO ★ ST. PAUL
ST. LOUIS ★ ATLANTA

TEXACO

TEXACO Dieseltex HD

FOR ALL RAILROAD DIESELS

TUNE IN . . . TEXACO STAR THEATER starring MILTON BERLE on television every Tuesday night. See newspaper for time and station.

Our Metallurgists Will Help Solve Your Defense Order Problems

Almost every day some manufacturer comes to us with a new steel problem with which he is confronted in connection with defense contracts. In some cases he needs detailed information on grades or qualities of steel to produce specified results. In others he has questions about sizes of rough stock, processing details, heat-treatment, or machining. Usually our metallurgists are able to come up with the right answer.

If you happen to run into any situation where you need metallurgical advice concerning defense orders, let us know about it. We will do our best to help. And you can rest assured that our advice will be given from an unbiased viewpoint, for we manufacture practically all grades of steel and we have no special products that we are interested in promoting.

This service will cost you nothing; it may prove to be of considerable value.

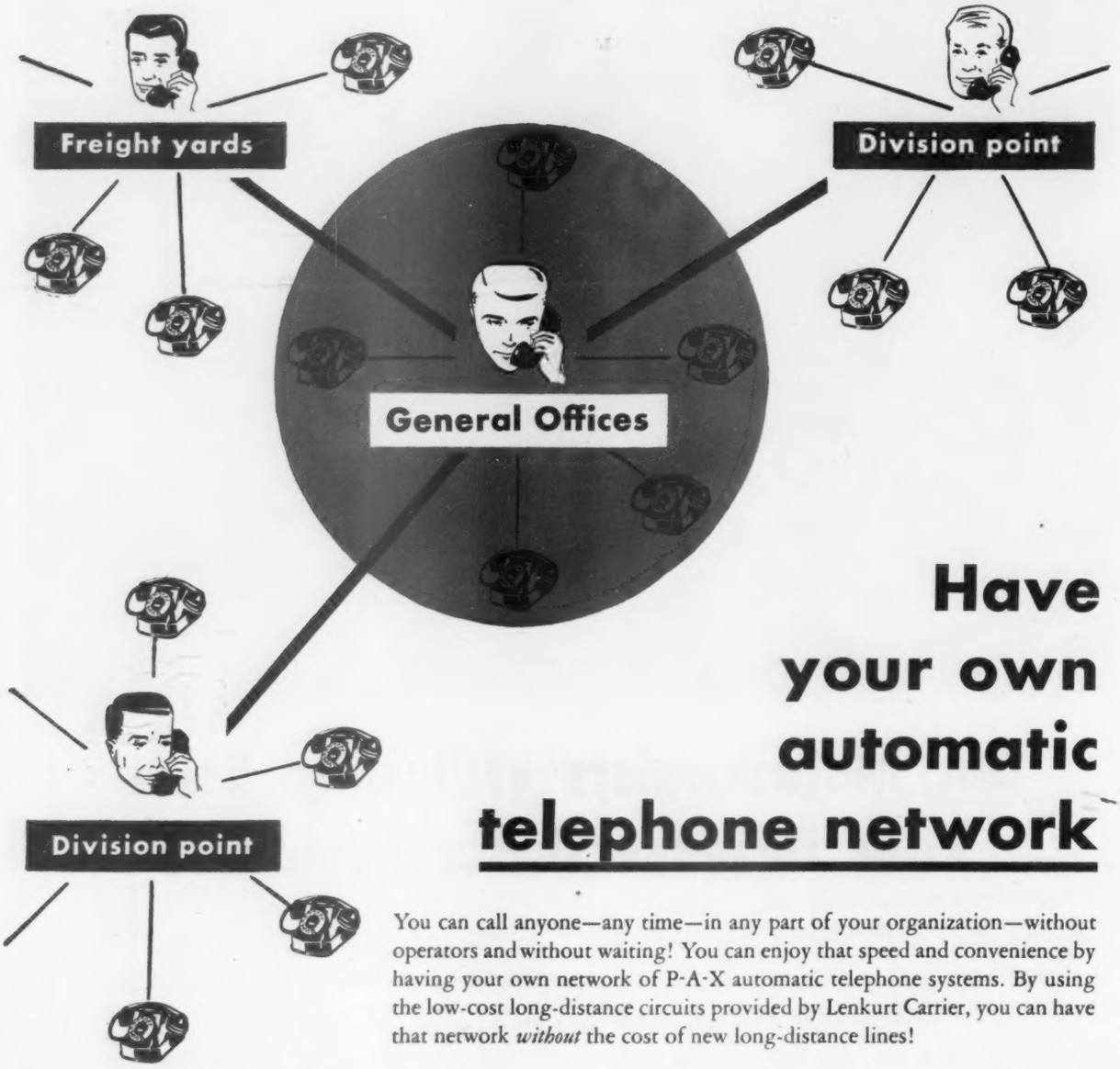
If you need steel, remember that Bethlehem is a dependable source for all of the AISI alloy grades in addition to the full range of carbon and special steels. For full information, call or write our nearest sales office.

BETHLEHEM STEEL COMPANY
BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. *Export Distributor:* Bethlehem Steel Export Corporation

BETHLEHEM ALLOY STEELS

BETHLEHEM STEEL



Have your own automatic telephone network

You can call anyone—any time—in any part of your organization—without operators and without waiting! You can enjoy that speed and convenience by having your own network of P-A-X automatic telephone systems. By using the low-cost long-distance circuits provided by Lenkurt Carrier, you can have that network *without* the cost of new long-distance lines!

P-A-X telephone systems

provide the finest local communication at each office, yard, and division point. P-A-X automatic switchboards complete calls quickly with just a few turns of the dial. Build these individual P-A-X installations into an automatic telephone network, and you extend this same service throughout your organization!

Lenkurt carrier systems

can connect all your P-A-X switchboards into one integrated, company-wide network of automatic communication. Lenkurt Carrier enables you to operate this network over your existing wires, and generally provides actually *better* operation than the wire lines!

Let us tell you how you can own a P-A-X automatic telephone network.

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100th Anniversary 1851 1951 Erie Railroad

CONGRATULATIONS
. . . on a century of service to shippers and travelers, from the "Great Lakes to the Sea."

Vol. 130, No. 19 May 14, 1951

RAILWAY AGE

With which are incorporated the Railway Review, the Railroad Gazette, and the Railway-Age Gazette. Name Registered in U. S. Patent Office and Trade Mark Office in Canada.

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Railway Signaling & Communications Car Builders' Cyclopedia Locomotive Cyclopedia
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Books covering transportation and building

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with "UNION" C.T.C.

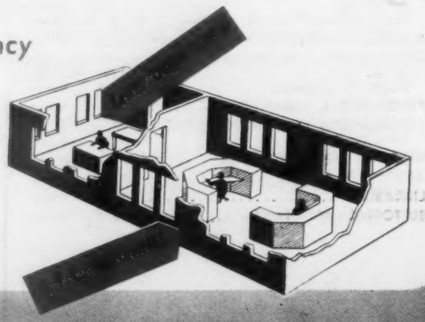
. . . And this applies to multiple, as well as single-track, territories!

IN double track territories, for example, switches can be power-operated with signal control arranged to govern train movements in *both* directions on *both* tracks. Crossovers, under the direct control of the operator, permit trains to pass from one track to the other . . . fast trains can run around slower ones, and both keep moving at normal speeds. When traffic is heavy in one direction, sections of both tracks can be used by trains running in that direction.

With such an arrangement, you can increase your railroad's track capacity . . . eliminate congestion by reducing unnecessary delays, and assure maintenance of fast advertised schedules.

and for maximum efficiency

Concentrate Control at Division Headquarters



WEEK AT A GLANCE

NEXT WEEK: *Railway Age's* 1951 Passenger Traffic Issue.

OUT OF THE PAST: "The directors of this great work of internal communication, having brought their labors so far to a close, as to be able to open their road throughout its entire length, determined to celebrate the event in a manner suitable to the magnitude of the undertaking . . . the 14th of May . . . [was] appointed for this purpose." So said the American Railroad Journal [established 1831] in beginning, in its issue of May 24, 1851, a detailed account of the inaugural journey over what was then the entire main line of the New York & Erie, from Piermont, N. Y., to Dunkirk. Exactly 100 years have elapsed. And the directors of a far greater "work of internal communication"—the modern Erie—have "appointed" this 14th of May to commemorate the original event, by reenacting as accurately as possible that original inaugural run.

ERIE: In recognition of the Erie's long and eventful history, and of its undisputed present importance, this issue is devoted almost entirely to that railroad. Beginning on page 64 is a comparatively brief account of the high spots of Erie history, which is followed on page 70 by a brief but well illustrated sketch of the development of Erie motive power and cars. On pages 76-81 are short descriptions of some phases of Erie operations today—its "high and wide" business; its perishable traffic; its marine operations; its radio communication system; and its commuter services. A description of Erie track structure and maintenance methods starts on page 82; and after that, on page 85, is a brief survey of its present physical and financial condition—both, incidentally, excellent. Page 89 lists the 19 Erie men who have gone on to head other railroads; the news section includes the schedule for today's reenactment of the N.Y.&E.'s inaugural run 100 years ago; and a brief editorial on page 63 refers to some of the lessons to be learned from Erie history.

HOW MANY DIESELS? As of December 31, 1950, the Pennsylvania, the Santa Fe and the New York Central, in that order, were the country's largest railway users of diesel motive power, both in numbers of units and in total horsepower. (On both counts, of course, the ranking is absolute; not relative to their own requirements. No one of the three giants has achieved the 100 per cent dieselization of a number of smaller roads.) A complete listing, by individual railroads, of the 14,147 diesel units, aggregating 18,441,987 horsepower, owned by Class I line-haul railroads at the end of 1950 appears on pages 129 and 130.

JOHN BUDD TO HEAD G. N.? At press time, rather well-founded rumors have it that John M. Budd may be elected president of the Great Northern when the road's stockholders gather at St. Paul for their annual meeting on May 10. It is expected also that President Frank J. Gavin will become chairman of the board, while Ira G. Pool, present general manager of Lines East at Duluth, will be named to succeed Mr. Budd as operating vice-president.

THE RIGHT YARDSTICK: The regular monthly summary of revenues, expenses and earnings of Class I railroads appears in the news pages of this issue. It covers the month of March and 1951's first quarter, and shows, for the latter period, aggregate net income of $104 million against $55 million a year ago. "Such an increase," said the New York Herald Tribune, in commenting on the results, "is, on the surface, bad propaganda for the railroads in their pending application for higher freight rates. But the need for higher rates lies not in the danger that [the railroads] might do worse than last year but in what the earnings represent in terms of return on invested capital. Using the latter measure, it is probable that even the relatively good railroad earnings leave such rate of return below the level needed to attract additional needed capital." Except that the qualifying "it is probable" might well have been omitted, the quoted comment goes right to the heart of the railroad problem. Though, for emphasis, it might also have pointed out that net income for March, at $51 million, was exactly equal to the net for March 1950, when carloadings were substantially under their present levels. What better proof could be offered of the manner in which increases in wages, material costs and taxes—all outrunning rate increases—are depriving the roads of the larger financial returns ordinarily thought of as accompanying higher traffic?

"I AM THE COOK AND THE CAPTAIN BOLD": We don't really know anything about Mr. Kennedy's interest in cooking—or his desire to be a "captain"—but the B.R.T. president would quite obviously like to be plaintiff, judge and jury in any case involving wages or working conditions of railroad operating employees. The supporting reasons for that statement, and some cogent thoughts on the fundamentally untenable position in which it puts Mr. Kennedy, are set out in the editorial on page 61.

NEWS HIGHLIGHTS: P.R.R. to buy 132 more diesels; N.P. 23.—"Ops" want 25 per cent increase in retirement benefits.—N.Y.C. to expand diesel facilities at Selkirk and Ashtabula.—D.&H. orders 1,000 freight cars.—N.P.A. issues C.M.P. rules.—Knudson sees transport regulations ahead.—Army orders 41 diesels; S.P.&S. five; latter also inquiring for 500 box cars.—Feucht to move from P.R.R. to North Western.—First mechanically refrigerated milk car goes into service on B.&M.—Western roads increase some round-trip fares.—April freight car deliveries reach 8,274.—I.C.C. concludes "reparations" hearings.—National Malleable & Steel Castings Co. to increase capacity 25 per cent.

on its 100th birthday

The Erie Railroad has come a long way since it was completed in 1851. Its growth has matched each forward stride taken by American industry. Great cities have grown with it — and because of it. 100 years of matchless service . . . that's a proud achievement, Erie Railroad.

This advance is also symbolic of Airco's strides in developing railroad service techniques. Working uninterruptedly with railroads for more than thirty-five years, Airco has originated new and better oxyacetylene and electric arc processes for more efficient and economical operation. Here are a few of these processes that have helped keep the railroads rolling with peak efficiency, at lowest maintenance costs.

FOR MECHANICAL OPERATIONS . . . Airco's fast, inexpensive Heliwelding process enables railroads to reclaim aluminum pistons. This inert, gas-shielded, arc welding process saves scarce aluminum and reduces downtime of operating equipment.

FOR TRACK MAINTENANCE . . . Today, railroads use the oxyacetylene processes to heat-treat frogs, build up wheel burns and switch points, crop rails, and flame-clean steel structures prior to painting. Airco oxyacetylene equipment is standard with many roads.

FOR SCRAPPING . . . The railroads rely on Airco oxyacetylene flame cutting torches to speed up the flow of much-needed scrap to America's steel furnaces. Box cars, gondolas, locomotives and other equipment are quickly cut to charging box size.

For more than a third of a century, Airco Railroad Service Representatives have guided the Erie's use of oxyacetylene and electric arc processes. May we offer you their services?

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Congratulations

YOUR 100th ANNIVERSARY

ERIE

1851 1951

A. R. MITNER, INC. - CHICAGO

GIVE OLD BRIDGES A "New Lease On Life"

The treatment is simple . . . the cost is low.

Just reline failing arches with rugged Armco MULTI-PLATE. You gain years of added life at much less than the cost of a new structure and with only a slight reduction in waterway area.

To do the job quickly all you need is a small unskilled crew and simple equipment. There is no interference to traffic. When desirable, you can widen the structure by simply adding more plates and backfilling directly against the metal.

You'll also like Armco MULTI-PLATE Pipe for replacing old trestles. It provides a durable, maintenance-free structure—with no fire worries.

Other Armco Products of special value to railroads include PIPE-ARCH, ASBESTOS-BONDED and PAVED-INVERT Pipe for solving problems of limited headroom, severe corrosion and erosion. More than 40 years of underground service is your assurance of their lasting economy and dependability. Write for complete information. Armco Drainage & Metal Products, Inc., 3211 Curtis Street, Middletown, Ohio. Subsidiary of Armco Steel Corporation.

Export: The Armco International Corporation

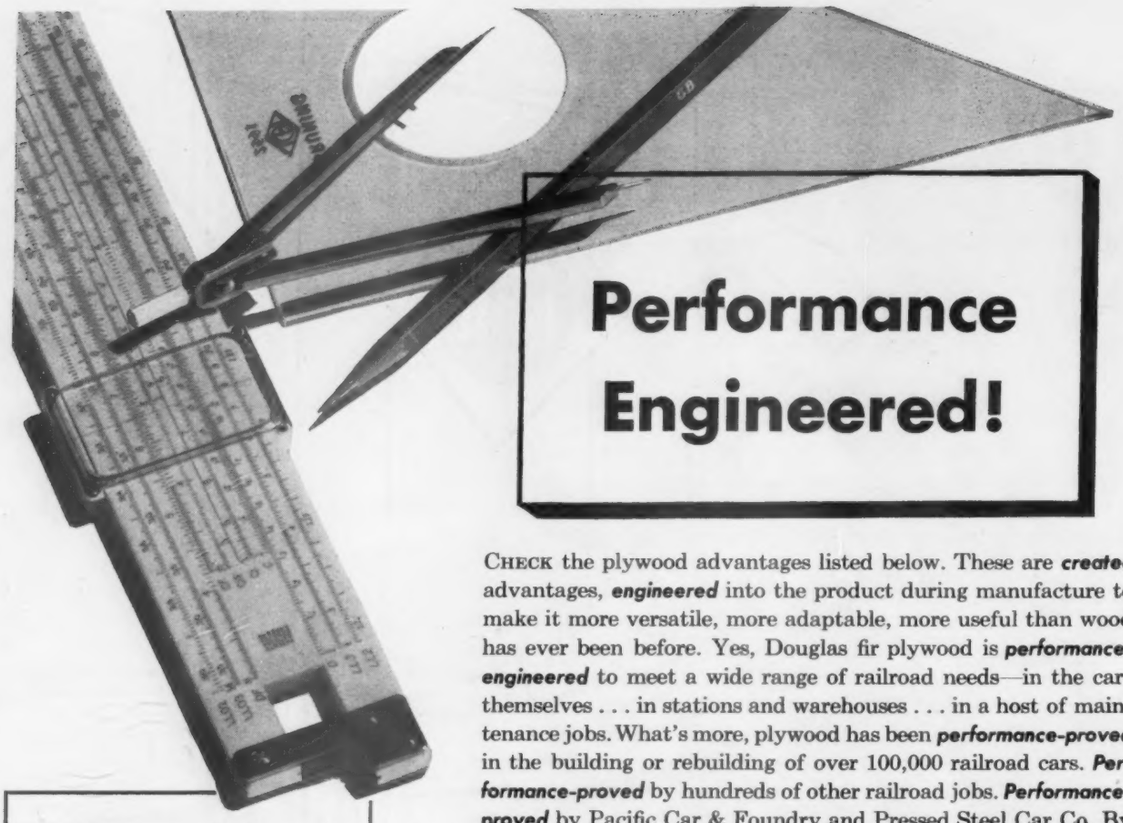
MORE SCRAP MEANS MORE STEEL • TURN YOURS IN TODAY!

ARMCO DRAINAGE STRUCTURES

ERIE
ERIE
Congratulations to the Erie
for "Serving the Heart of Industrial America" for a century marked by the same initiative which made you first—a hundred years ago—to join the Great Lakes and the Sea.

AMERICAN STEEL FOUNDRIES

mint mark of ● *fine products*



Performance Engineered!

CHECK the plywood advantages listed below. These are ***created*** advantages, ***engineered*** into the product during manufacture to make it more versatile, more adaptable, more useful than wood has ever been before. Yes, Douglas fir plywood is ***performance-engineered*** to meet a wide range of railroad needs—in the cars themselves . . . in stations and warehouses . . . in a host of maintenance jobs. What's more, plywood has been ***performance-proved*** in the building or rebuilding of over 100,000 railroad cars. ***Performance-proved*** by hundreds of other railroad jobs. ***Performance-proved*** by Pacific Car & Foundry and Pressed Steel Car Co. By Fruit Growers Express and Morrell Refrigerator Line. By Union Pacific and Illinois Central. And by hundreds of other car builders and operating lines.

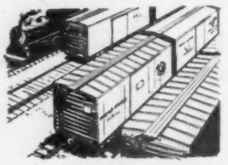
Put these Plywood Advantages To Work For You!

Douglas fir plywood is real wood in large, light, strong panels "performance-engineered" to bring you:

- ✓ **Great strength. Rigidity. Dimensional stability.**
- ✓ **A strength-weight ratio greater than steel.**
- ✓ **Split-proof, puncture-proof.**
- ✓ **Tremendous resistance to impact.**
- ✓ **Ease of handling. Workability. Versatility of application.**
- ✓ **Large panels; stock sizes and thicknesses.**
- ✓ **Two types*: Waterproof-bond Exterior; moisture-resistant Interior. Several appearance grades within each type.**

*Two types: (1) 100% waterproof-bond EXTERIOR made for outdoor and marine uses; EXT-DFPA® grade-trademark is positive identification. (2) Moisture-resistant INTERIOR for uses not permanently exposed to water or weather. Within each type are several appearance grades to meet exact job needs. Produced and inspected in strict accord with rigid U. S. Commercial Standards.

Plywood Is Performance-Proved For All These Jobs



CAR CONSTRUCTION

Siding and lining reefers; bunkers and bulkheads in reefers. Siding and lining box cars, work cars and other rolling stock. Underlayment for floor coverings, luggage racks and interior details in passenger cars.

BUILDING AND MAINTENANCE

Siding, interior paneling, movable partitions and cabinet work . . . subflooring, wall and roof sheathing. Station booths and counters. Signs and signal boards. Parts bins. Pallets. Track shims. Portable buildings.

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For stations, shops and maintenance buildings . . . bridges, aqueducts and other concrete jobs . . . re-usable plywood concrete form panels offer these advantages: smooth, fin-free concrete; time and labor savings through simplified form construction; low cost-per-use.

For complete plywood data, write (U. S. A. only) Douglas Fir Plywood Association, Tacoma Bldg., Tacoma 2, Wash. Field offices: 848 Daily News Bldg., Chicago 6; 1232 Shoreham Bldg., Washington 5, D. C.; 500 Fifth Ave., New York City 18.

Douglas Fir Plywood

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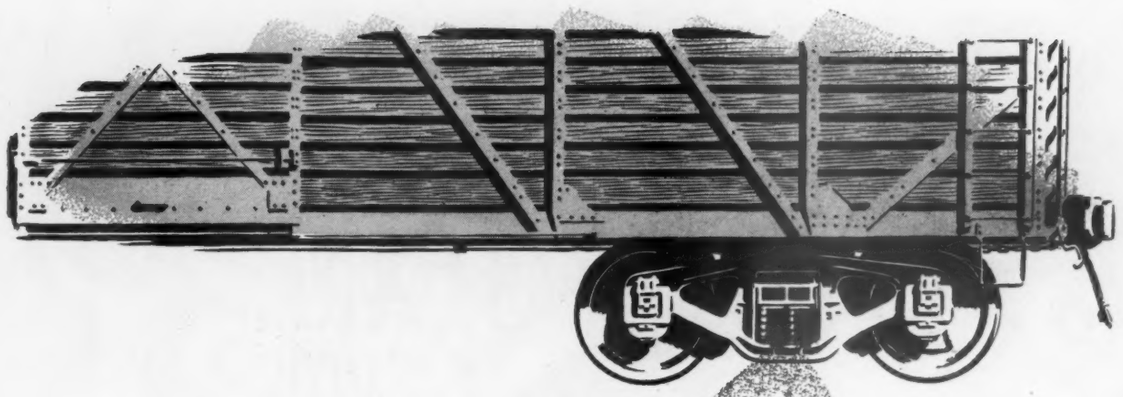


Start here...

to earn a faster return from fast freight

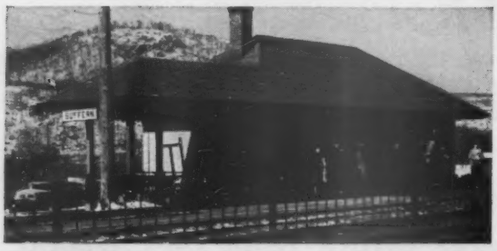
Long travel springs *increase* your freight revenue by *decreasing* your damage claims. Made by the Railway Steel-Spring Division these heavy coil springs cushion jars, soften jounces, and assure a smooth ride that protects the pay-load in your car from damage. *"Railway" springs* also stretch your operating dollar by lowering maintenance costs and increasing the life of your rolling stock and roadbed.

To receive all of these benefits, specify *"Railway" springs.* You will receive fast efficient service plus a product that's backed by many years of pioneering in spring design. Call your Alco sales representative in New York, Cleveland, Chicago, St. Louis, St. Paul, San Francisco.

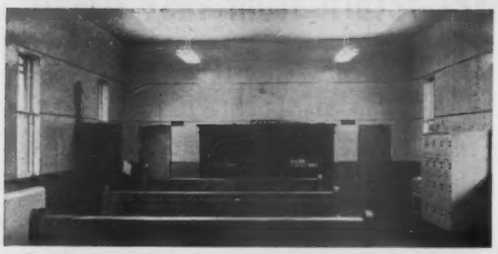
Railway Steel-Spring Division

AMERICAN LOCOMOTIVE COMPANY

. . . these Johns-Manville products have lowered maintenance and operating costs through the years



J-M ASBESTOS SHINGLES—The J-M Asbestos Shingle Roof on the Erie's Suffern, N. Y. station has paid "many happy returns" by standing up under constant exposure to sun, wind and rain . . . with little maintenance. J-M Asbestos Siding Shingles on the side walls give this station a completely modern, fireproof exterior.



J-M ASBESTOS FLEXBOARD—For modernizing the interior of their Binghamton, N. Y. station, the Erie used J-M Asbestos Flexboard on the walls. Applied over the old wall surfaces, these asbestos-cement sheets are attractive in appearance, require no painting. J-M Insulating Board Panels for the ceiling and J-M Asphalt Tile for the floor complete this pleasing interior.

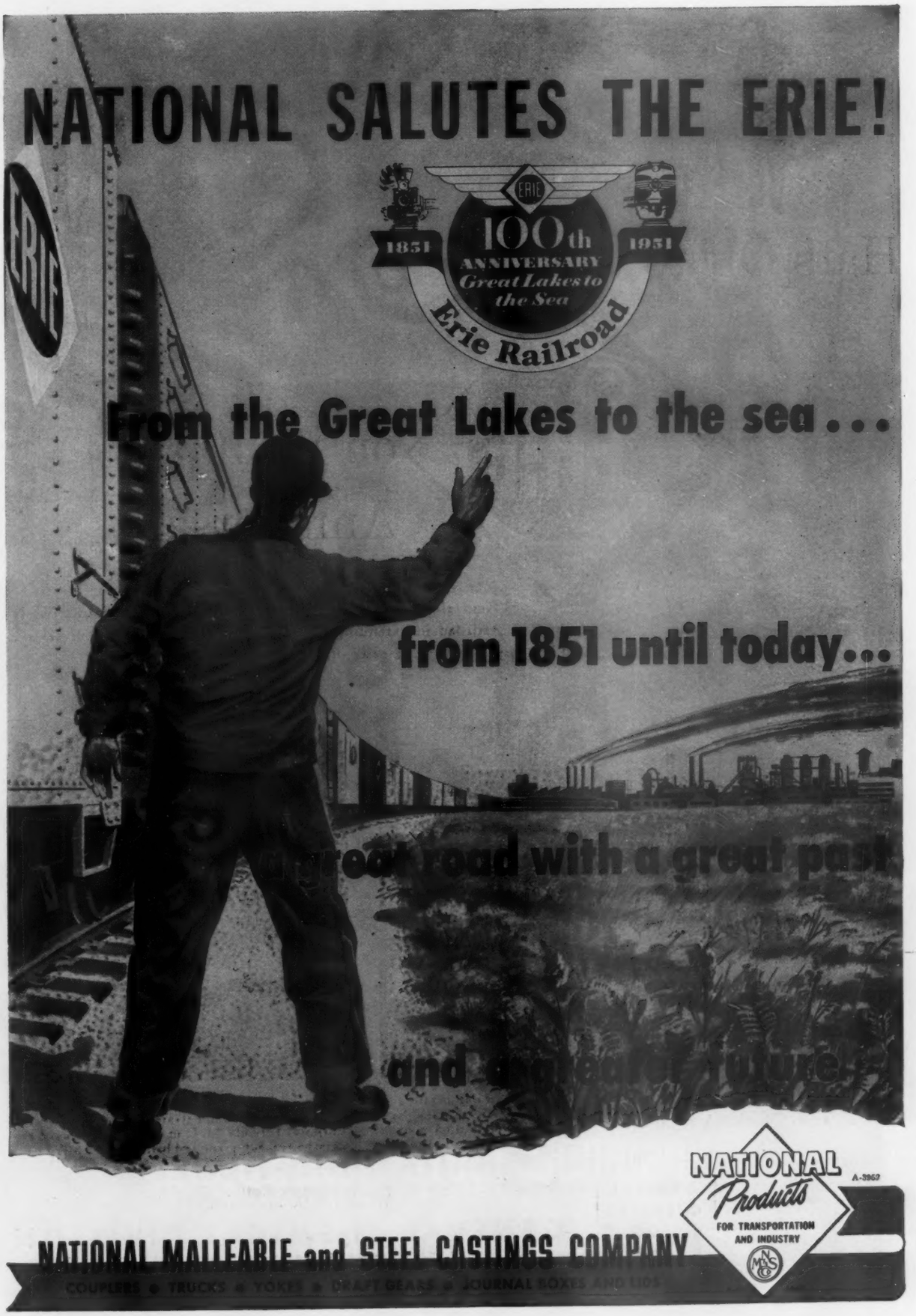
J-M TRANSITE PRESSURE PIPE—This Transite* Pipe water line at the Erie yard in Elmira, N. Y. was laid nearly 20 years ago. Through all these years it has withstood the attack of corrosive cinder fill . . . and will be on the job for many years to come. Its tight, flexible joints absorb vibration, protect against costly pipe failures.

*Reg. U. S. Pat. Off.

Johns-Manville is proud to have been associated with the Erie during its first 100 years of progress . . . and wishes this great railroad "Many Happy Returns"!

100th ANNIVERSARY 1851 1951 Great Lakes to the Sea Erie Railroad

JOHNS-MANVILLE JM PRODUCTS **Johns-Manville** 93 YEARS OF SERVICE TO TRANSPORTATION


NATIONAL SALUTES THE ERIE!
ERIE
1851
100th
ANNIVERSARY
Great Lakes to the Sea
1951
Erie Railroad
From the Great Lakes to the sea . . .
from 1851 until today . . .
great road with a great past
and
future
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COUPLERS • TRUCKS • YOKES • DRAFT GEARS • JOURNAL BOXES AND LIDS

1851

Hats Off to the

1951

ERIE

on its 100th Anniversary

General Chemical Weed Killer Department joins the many friends of the Erie Railroad in extending congratulations on its 100th anniversary, with best wishes for even greater progress during the years ahead!

A TYPICAL EXAMPLE of the Erie's continuous effort to provide safe, dependable transportation is its modern weed control program. General Chemical is pleased to have a part in this activity, by providing the most modern chemical control methods for important areas of main line and secondary track.

Above—General Chemical spray train operating in June, 1950 on Erie main line east of Elmira, New York. *At right*—High grade mainline track west of Binghamton, New York, shows typical results. This section receives a single treatment yearly of General Chemical Formula 7,B-D in oil to prevent weed encroachment. Sub-grade and ballast is kept weed free.

GENERAL CHEMICAL WEED CONTROL

WEED KILLER DEPARTMENT

GENERAL CHEMICAL DIVISION

ALLIED CHEMICAL & DYE CORPORATION

40 Rector Street, New York 6, N. Y.

Congratulations

Erie Railroad

ERIE

1851 **100th** 1951

ANNIVERSARY

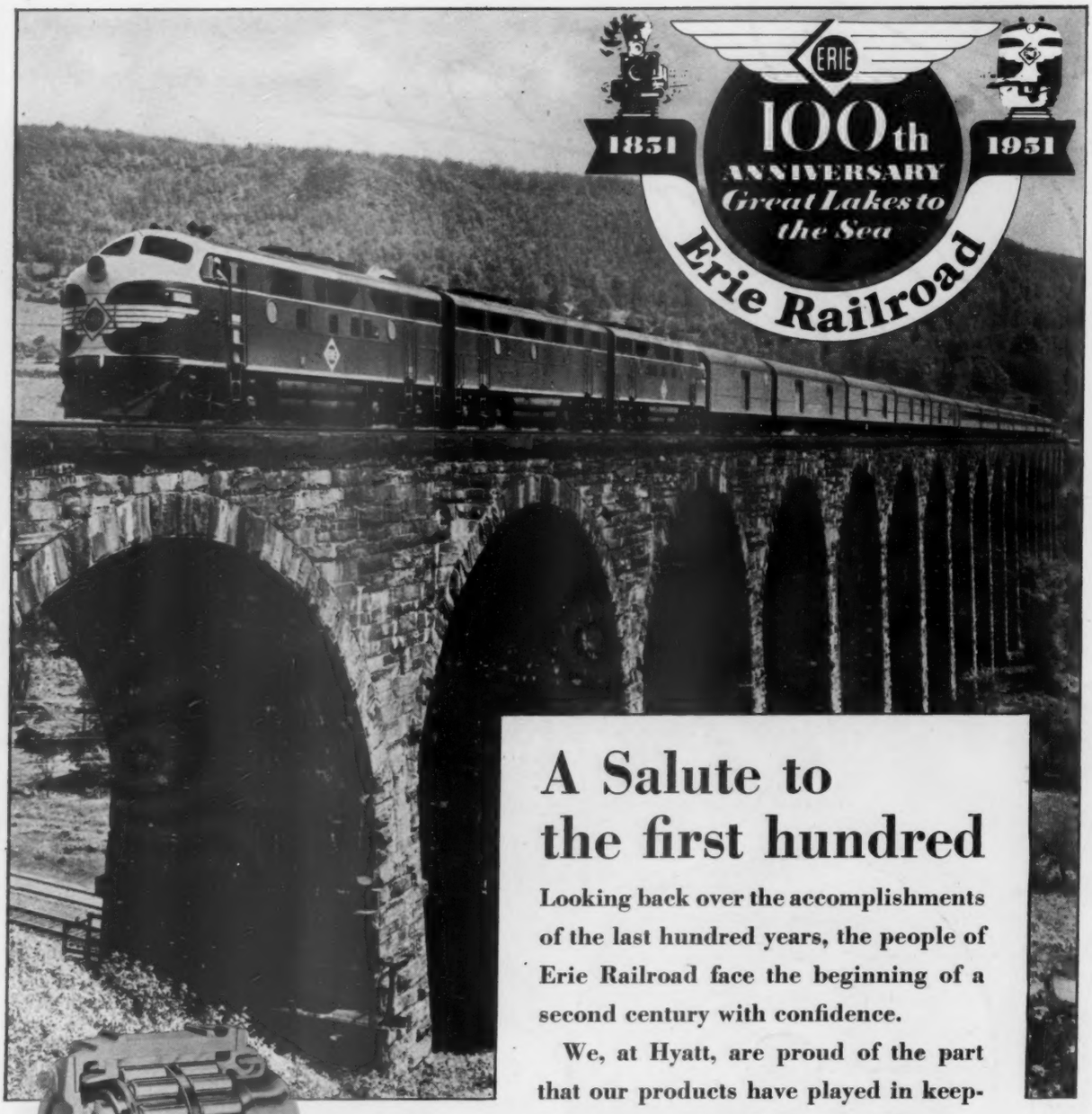
Great Lakes to the Sea

E

Edgewater Steel Company

ROLLED STEEL WHEELS

DRAFT GEARS ROLLED STEEL TIRES



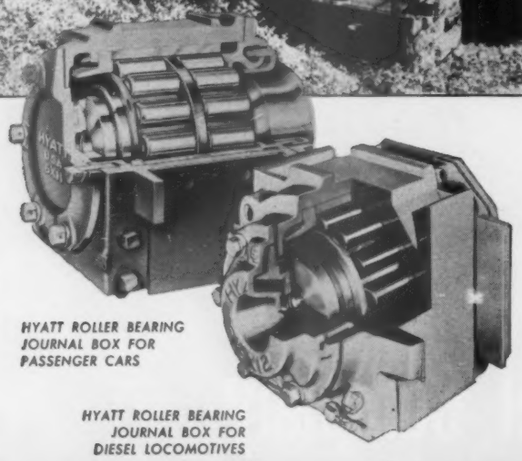
A Salute to the first hundred

Looking back over the accomplishments of the last hundred years, the people of Erie Railroad face the beginning of a second century with confidence.

We, at Hyatt, are proud of the part that our products have played in keeping equipment modern and efficient.

We salute Erie's first hundred years and pledge our efforts to warrant continued association with this great railroad as a supplier of roller bearing journal boxes.

Hyatt Bearings Division, General Motors Corporation, Harrison, N. J.



HYATT ROLLER BEARING JOURNAL BOX FOR PASSENGER CARS

HYATT ROLLER BEARING JOURNAL BOX FOR DIESEL LOCOMOTIVES

HYATT ROLLER BEARING RAILROAD JOURNAL BOXES

Specify PYLE

Headlights and Trainwire Connectors for *Efficiency & Durability*

One of the Erie Railroads' newest switcher type diesels. Equipped with Pyle headlights and trainwire receptacles for control circuits.

Congratulations

TO THE

ERIE RAILROAD

ON THEIR **100TH** ANNIVERSARY

Twin Sealed-beam Headlight—type 19585

Trainwire Receptacle—type WWRB
16-21-24-27 pole

Trainwire Rubber Jumper—type WWPEJ
16-21-24-27 pole

Pyle-National's electrical equipment and conduit fittings for all types of locomotives have won world-wide recognition for their long service life and economical maintenance. These Pyle products are constructed of rugged quality materials and have been designed specifically to withstand the severe vibration and hard use of railroad service.

Pyle headlights, Gyralites and backup lights, both reflector types and sealed beam types, are available for all classes of diesel and steam locomotives.

Pyle trainwire receptacles, plugs, and jumpers are designed especially for inter-unit control and standby connections. Plugs of metal, phenolic, or all-rubber construction are available.

Over half a century of specialized experience in the manufacture of electrical equipment for locomotives

THE PYLE-NATIONAL COMPANY

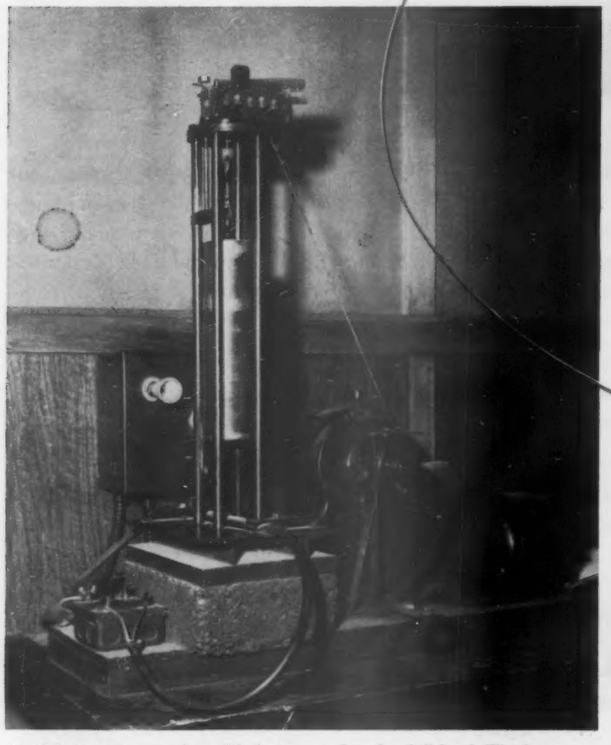
1356 NORTH KOSTNER • CHICAGO 51, ILLINOIS

BRANCH OFFICES AND AGENTS in the principal cities of the United States and Canada. EXPORT DEPARTMENT: International Railway Supply Co., 30 Church Street, New York. CANADIAN AGENT: The Holden Co., Ltd., Montreal

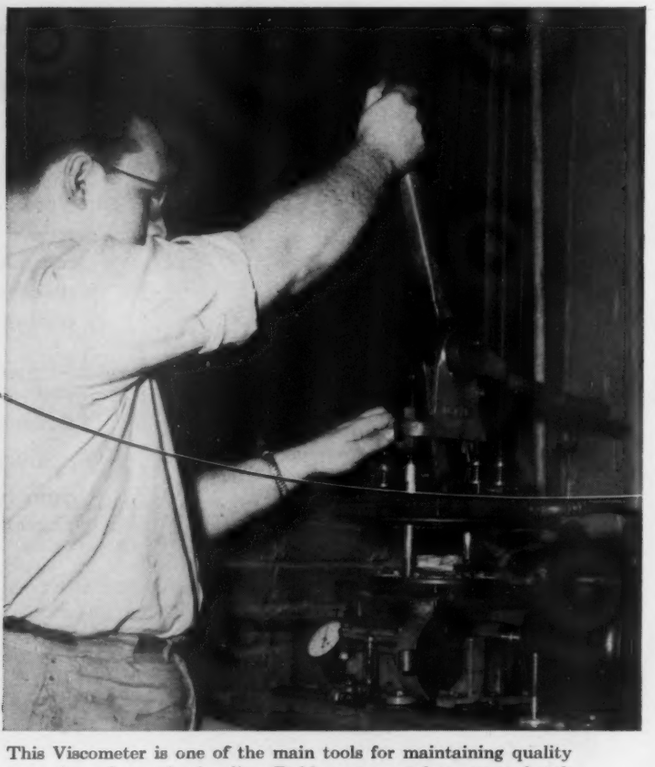
LOCOMOTIVE NUMBER, CLASSIFICATION, MARKER, & GAUGE LIGHTS • MOTOR GENERATORS • DYNAMOTORS • CONDUIT FITTINGS

This rubber mill is installed for the exclusive use of our research department. Here, sample rubber compounds are milled under conditions that are identical with those encountered in actual production.

Here is the oxygen bomb—installed to provide accelerated aging test data. Results are available for all American Rubber Insulations that are tested in the oxygen bomb.



In this drop tester, the cable is operated under full load. The heavy steel weight is repeatedly dropped on the cable until it fails. At the top of the column is a counter that gives a numerical indication of how much such abuse the cable can withstand.



This Viscometer is one of the main tools for maintaining quality control *on the production line.* Rubber samp es from every batch are carefully examined to make sure that they meet all specifications drawn up by the research department.

6 answers to your rubber insulation problems

AMERICAN STEEL & WIRE COMPANY
USS
AMERICAN ELECTRICAL WIRE AND CABLE
UNITED STATES STEEL

1. AMARINE-40 — **UNDER GROUND OR UNDER WATER.** High voltage service for submarine power cables and for general use above 7500 volts.

2. AMERZONE — **OZONE-RESISTANT.** Plus resistance to heat and moisture.

3. AMARINE RWS — **HOT OR DAMP LOCATIONS.** Low water absorption, excellent heat resistance.

4. AMERITE — **GENERAL USE.** Performance grade compound. Use where copper temperature will not exceed 60°C.

5. AMPEROX — **HEAT-RESISTANT, GENERAL USE.** For copper temperatures up to 75°C., and voltages up to 7500.

6. AMERPRENE — **OIL, FLAME, SUNLIGHT AND AGE-RESISTANT.** Extra flexible jacket. High Neoprene content.

Close laboratory control assures you the best in material and design

There's an AMERICAN insulation for every need

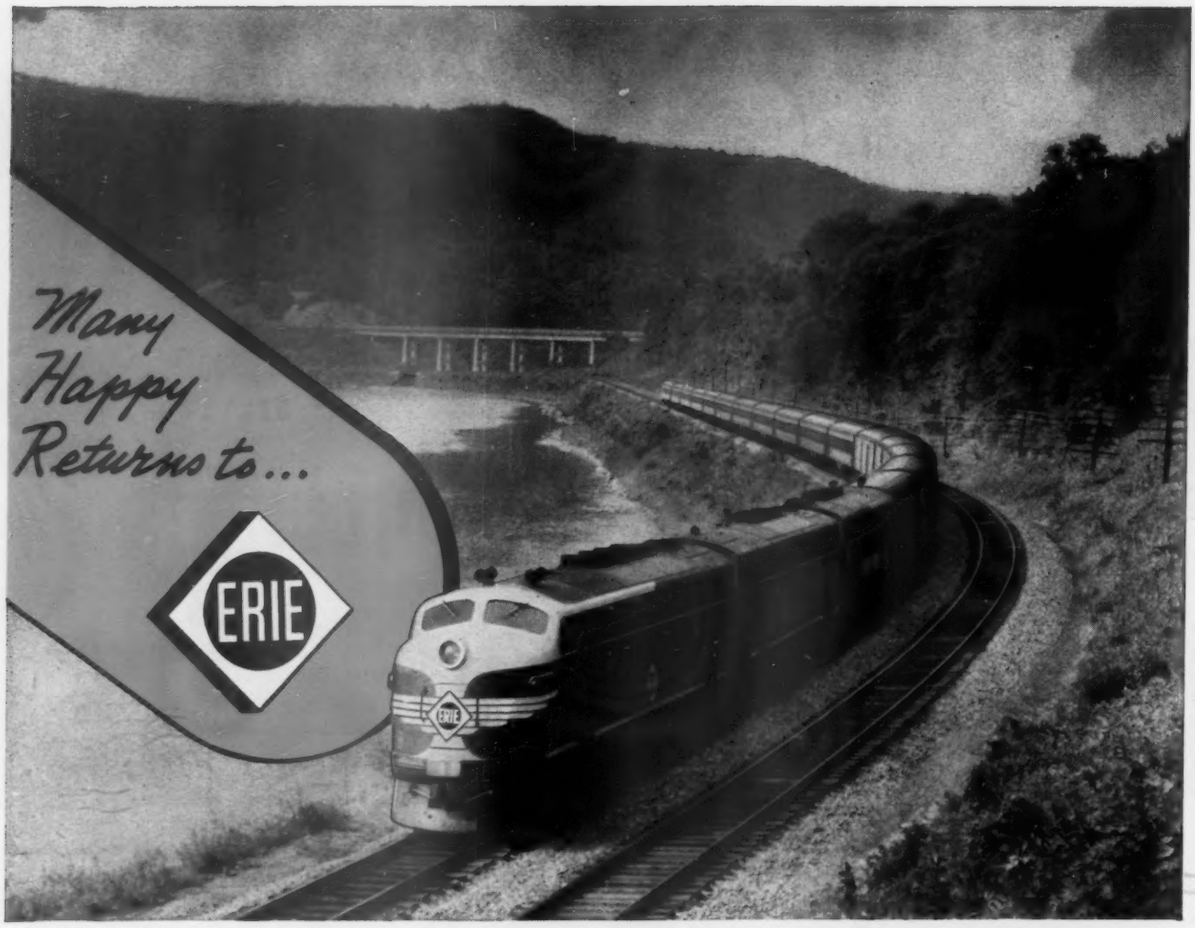
No matter what your problem—high voltage, temperature, oil, moisture, ozone or sunlight—there's a standard American Insulation to solve it.

For complete test data on any of these compounds, call your American Steel & Wire Company District Engineer or write to American Steel & Wire Company, Rockefeller Building, Cleveland 13, Ohio.

AMERICAN STEEL & WIRE COMPANY, GENERAL OFFICES: CLEVELAND, OHIO • COLUMBIA STEEL COMPANY, SAN FRANCISCO, PACIFIC COAST DISTRIBUTORS
TENNESSEE COAL, IRON & RAILROAD COMPANY, BIRMINGHAM, SOUTHERN DISTRIBUTORS • UNITED STATES STEEL EXPORT COMPANY, NEW YORK

USS **American Electrical Wire and Cable**

UNITED STATES STEEL



100 YEARS OF COMMENDABLE PROGRESS!

The way you have kept pace with the rapid strides of our nation's progress is a noteworthy achievement and an outstanding honor. It's also a real tribute to the American system of private enterprise . . . proof positive that freedom is the only avenue to permanent happiness and success.

The New
BOWSER SERV-A-TRAIN

Another important milestone in Erie's Century of Progress is the recent installation of the first Bowser high-speed Diesel refueling unit in their Dunmore, Pennsylvania yards. This new ONE-PACKAGE Serv-A-Train will cut refueling time to a fraction of that required by present systems.

100th ANNIVERSARY Great Lakes to the Sea Erie Railroad

•

BOWSER ESTABLISHED 1885

BOWSER, INC., 1321 CREIGHTON AVE., FORT WAYNE 2, IND.

• LIQUID CONTROL SPECIALISTS SINCE 1885

DUCTILE IRON

A Revolutionary Metallurgical Development

DUCTILE IRON is a cast ferrous product which combines the *process advantages* of cast iron with many of the *product advantages* of cast steel.

No longer in the pilot-plant stage, this new material is now produced and sold on the basis of specifications. Not only are its individual properties exceptional, but no other common engineering material provides such a combination of excellent castability and fluidity, with high strength, toughness, wear resistance, and machinability.

Actually, "ductile iron" denotes not a *single* product, but rather a family of ferrous materials characterized by graphite in the form of spheroids . . . a form controlled, in a broad sense, by small amounts of magnesium. Presence of spheroidal rather than flake graphite gives this new product a ductility that is unique among gray cast irons.

Four important types of ductile iron now being produced commercially are tabulated below.

REPRESENTATIVE MECHANICAL PROPERTIES OF COMMERCIAL HEATS OF DUCTILE IRON

	Grade	Tensile strength, psi	Yield strength, psi	Elongation per cent	BHN	Usual condition
A	90-65-02	95/105000	70/75000	2.5/5.5	225/265	As-cast
B	80-60-05	85/95000	65/70000	5.5/10.0	195/225	As-cast
C	60-45-15	65/75000	50/60000	17.0/23.0	140/180	Annealed
D	80-60-00	85/95000	65/75000	1.0/3.0	230/290	As-cast

A Pearlitic in structure. Provides good mechanical wear resistance.

B Pearlitic-ferritic in structure. Provides strength and toughness combined.

C A fully ferritic structure usually obtained by short anneal of either (A) or (B). Provides optimum machinability and maximum toughness.

D Higher phosphorous content than preceding grades, also higher manganese. Provides high strength and stiffness, but only moderate impact strength.

SOME UNIQUE PROPERTIES OF DUCTILE IRON

1. Its elastic modulus, about 25,000,000 psi, is virtually unaffected by composition or thickness . . .

2. It can provide a chilled, carbidic, abrasion-resistant surface supported by a tough ductile core. No other single material can combine these properties . . . its only counterpart being a tough material coated with a hard welded overlay.

3. As-cast ductile iron of 93,000 psi tensile strength has the same machinability rating as gray iron with a strength of 45,000 psi.

4. Annealed ductile iron can be machined at a rate 2 to 3 times that of good quality gray iron.

5. It can be satisfactorily welded.

APPLICATIONS

Automotive, agricultural implement, railroad and allied industries apply ductile iron, as-cast and heat treated, in components too numerous to detail.

Machinery, machine tools, crankshafts, pumps, compressors, valves and heavy industrial equipment such as rolls and rolling mill housings, utilize its high strength and rigidity.

In scores of engine, furnace and other parts serving at elevated temperatures, it provides oxidation and growth resistance heretofore unavailable in high carbon castings.

Other applications include paper, textile and electrical machinery, marine equipment, and pipe.

AVAILABILITY

Send us details of your prospective uses, so that we may offer a list of sources from some 100 authorized foundries now producing ductile cast iron under patent licenses. Request a list of available publications on ductile iron . . . mail the coupon now.

EMBLEM OF INCO SERVICE

The International Nickel Company, Inc.
Dept. RA, 67 Wall Street
New York 5, N. Y.

Please send me a list of publications on:

DUCTILE IRON

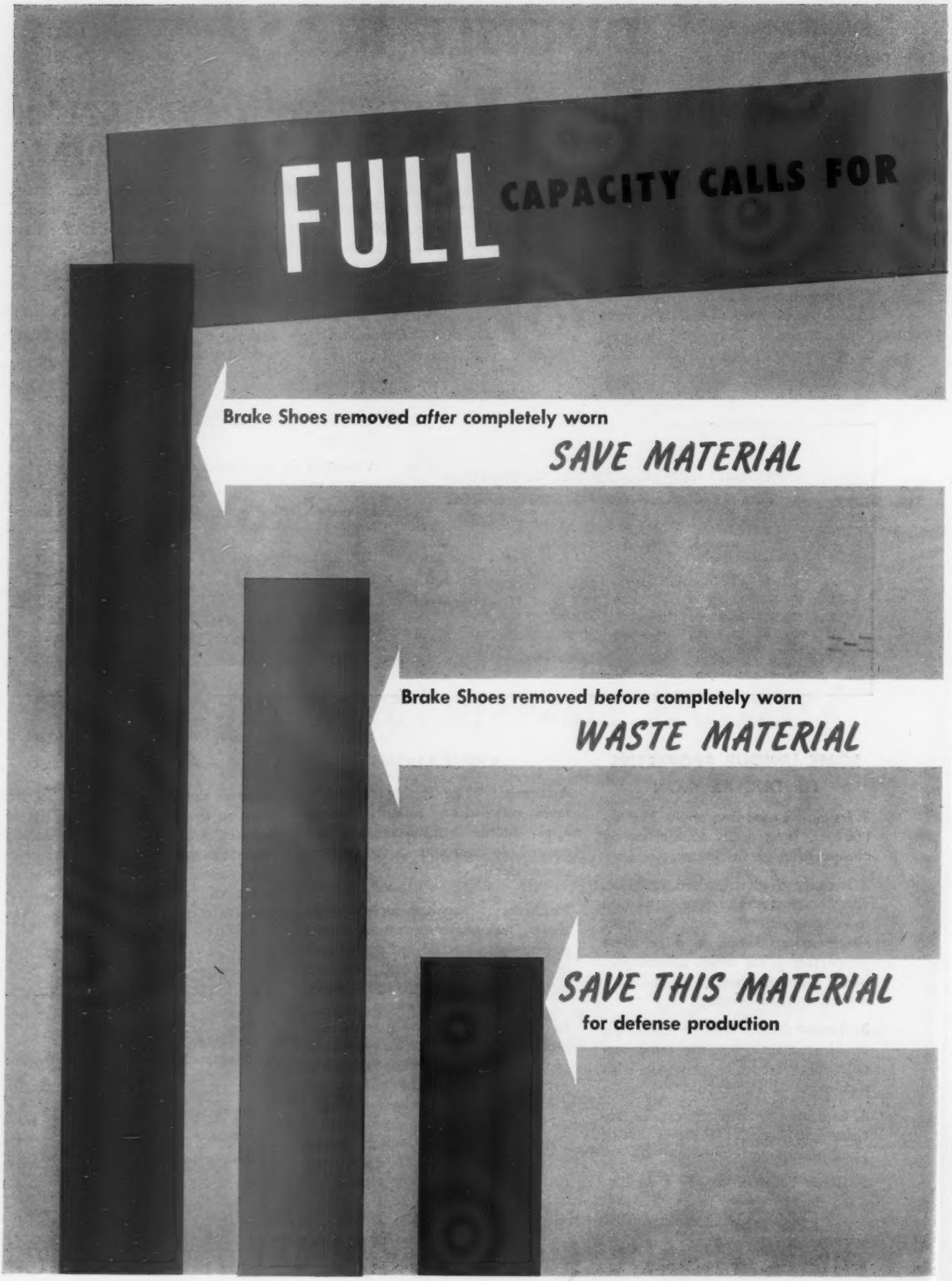
Name _____ Title _____

Company _____

Address _____

City _____ State _____

THE INTERNATIONAL NICKEL COMPANY, INC. 67 WALL STREET NEW YORK 5, N. Y.


FULL CAPACITY CALLS FOR
Brake Shoes removed after completely worn
SAVE MATERIAL
Brake Shoes removed before completely worn
WASTE MATERIAL
SAVE THIS MATERIAL
for defense production

FULL USE OF EXISTING MATERIAL

● Production and distribution at full capacity to meet combined civilian and military needs means more intensive service for America's railroads . . . calls for full utilization of all available facilities and materials.

That's why today it becomes increasingly important that you get every bit of service out of your brake shoes. To remove them while they are only partially worn is wasteful of both material and labor. American Brake Shoe Company, 230 Park Avenue, New York 17, N. Y.

WEAR ALL BRAKE SHOES TO THE

LIMIT-OF-WEAR MARK

Limit-of-wear is clearly visible. Be sure to wear to this mark.

Do not remove partially worn brake shoes. This shoe still has many miles of service that are being thrown away.

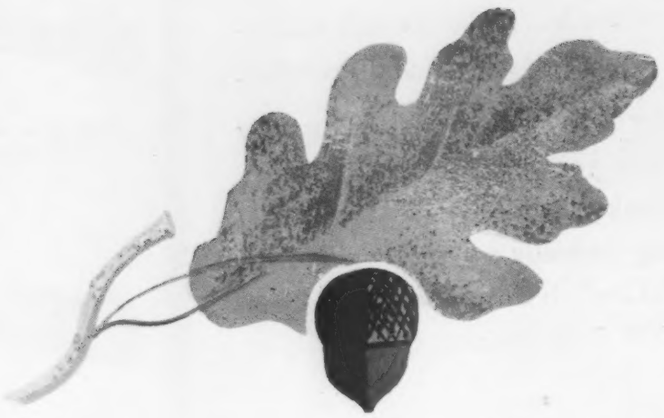
Do not remove cracked shoes until they have been worn to the limit-of-wear mark. The steel back holds the wearable metal in its place for full-wear duty.

HERE IS THE WAY A COMPLETELY WORN SHOE SHOULD LOOK. It has been worn to the limit-of-wear mark. No material or labor has been wasted.

AMERICAN Brake Shoe COMPANY

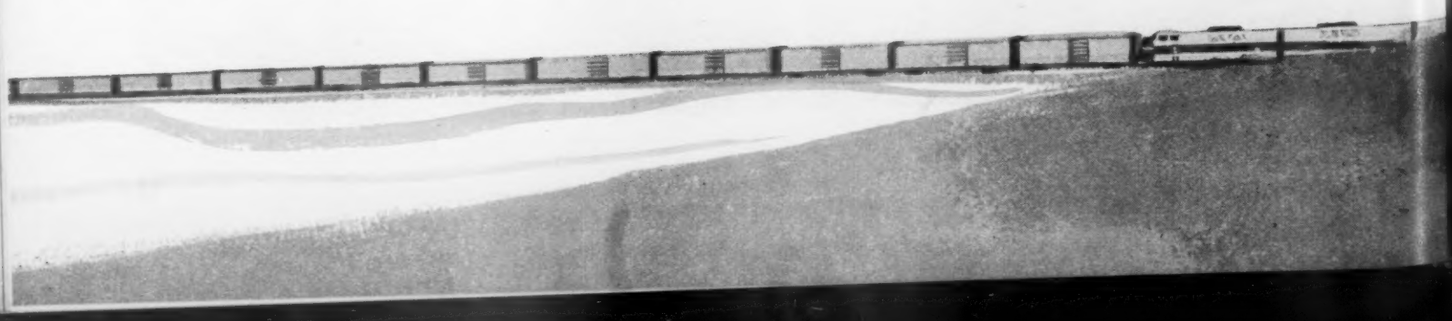
BRAKE SHOE AND CASTINGS DIVISION

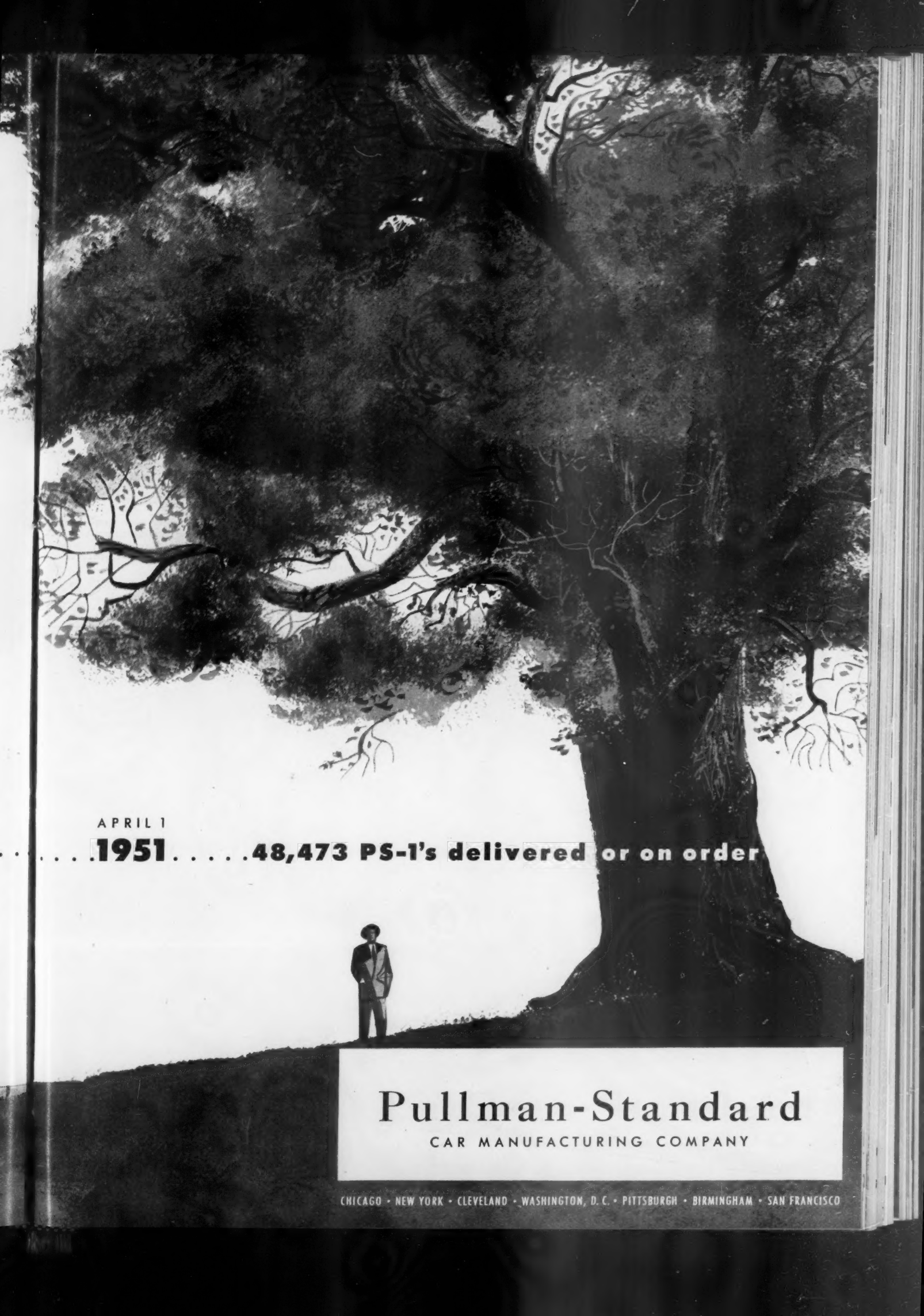
9091



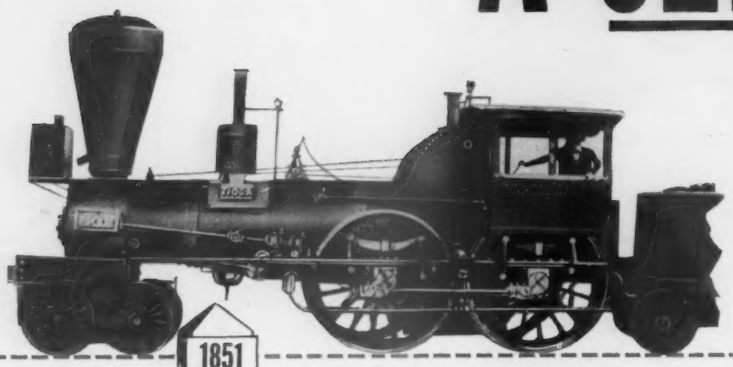
JUNE
1947. . . . . **first PS-1** **delivered**. . . . . .

A QUALITY BOXCAR EFFICIENTLY PRODUCED



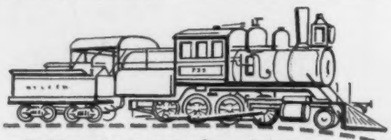

APRIL 1
. . . . .1951. . . . . .48,473 PS-1's delivered or on order
Pullman-Standard
CAR MANUFACTURING COMPANY
CHICAGO • NEW YORK • CLEVELAND • WASHINGTON, D. C. • PITTSBURGH • BIRMINGHAM • SAN FRANCISCO

A CENTURY OF



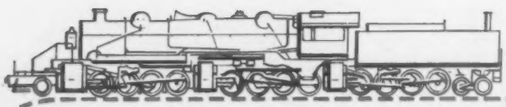
1851

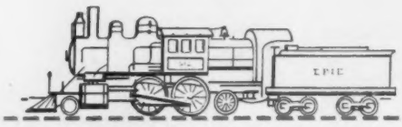
The Baldwin-built "Tioga" had 17 x 20-in. cylinders and weighed 56,460 lbs.—33,600 lbs. on drivers. Original drivers were 78" in diameter. These were subsequently replaced with 72" wheels.

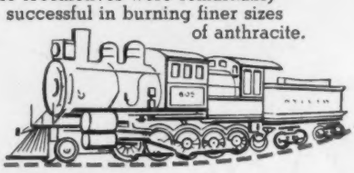


1890

Baldwin built eight Consolidation type and two Mogul type locomotives. These locomotives were remarkably successful in burning finer sizes of anthracite.







1916

Again for pusher service on Susquehanna Hill, Baldwin built these 2-8-8-8-2's, which were practically Mallets with steam driven tenders.

1899

Eighteen of these Atlantic Locomotives were built by Baldwin in 1899, and eleven more in 1901. They were exceedingly successful in handling fast passenger traffic.

1893

For pushing service on Susquehanna Hill, these Decapods were built by Baldwin—the heaviest in the experience of the works up to that time.

BALDWIN MOTIVE POWER

on the ERIE

Baldwin's congratulations to the Erie come with particular warmth and sincerity . . . for Baldwin motive power has been serving on this pioneer railroad practically continuously since the day of its beginning.

To an old friend and an old customer, Baldwin extends anniversary greetings . . . and voices the hope that the end of this first century of association will also be the beginning of another century of equally fine and friendly companionship.

1951

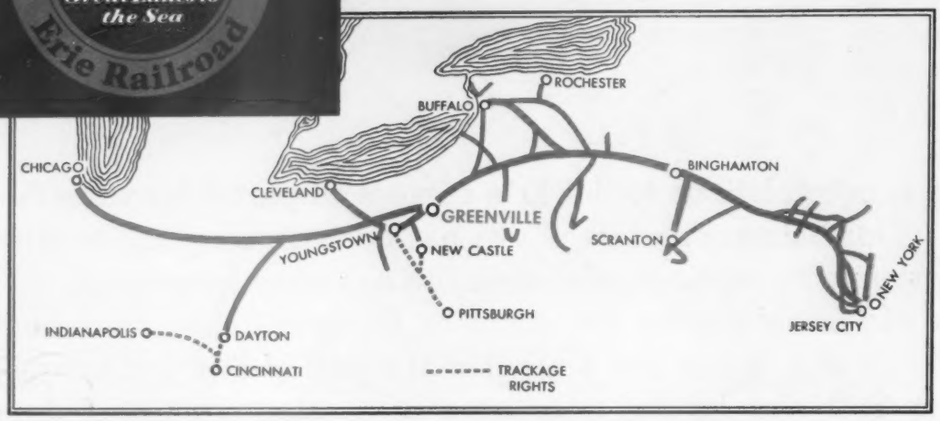
Newest contribution of Baldwin to Erie's motive power . . . these powerful, versatile All-Service 616 Units. Equally at home in branch line service, humping work, transfer or switching, or handling suburban trains, the AS-616 is one of the most remarkable all-round performers on the rails. It might be noted that these two units multiplied, provide approximately the same tractive force as the 2-8-8-8-2 at left above.

BALDWIN-Westinghouse

DIESEL ELECTRIC LOCOMOTIVES

BALDWIN-LIMA-HAMILTON CORPORATION
Philadelphia 42, Penna.

Proposing A CANDIDATE FOR RAILROADS' HALL OF FAME



THE ERIE has every right to be proud of its Centennial, and the progress it has made in its long and colorful history.

Many and varied are the interesting stories telling of the exploitations of the Erie during the pioneer days of railroading.

The building of a railroad system in the pick and shovel days of 100 years ago presented a Herculean task which called for rough-shod leadership, gambling instincts, and a fervent will to carry out to completion such a vast undertaking.

Even today, with the great array of modern equipment for performing construction work, it would be considered a great undertaking to build a railroad from our Eastern Seaboard to the Great Lakes.

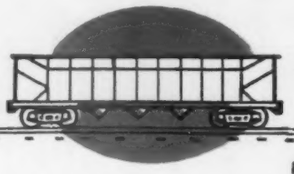
Those who pioneered the construction of the Erie were men of strong will and courage. Their faith in the enterprise has been more than justified, as the Erie stands out today as one of the principal arteries of railroad transportation passing through the heart of the most densely industrialized traffic areas in the United States.

It took men with strong hearts and vision to see the job that must be done in pioneering the Erie. It took men with equally strong convictions and leadership to perpetuate and modernize the railroad. Erie has never been lacking in men of outstanding leadership and courage.

We would like to predict that when a Hall of Fame for good railroads is inaugurated all of the Erie's shippers will be heard from in nominating the Erie as a charter member.

We consider it a distinct honor that the pioneer founders of our company and their successors were privileged to have been closely associated with the Erie during the past one-half century of the Erie's history-making rehabilitation.

GREENVILLE STEEL CAR COMPANY



GREENVILLE, PENNSYLVANIA

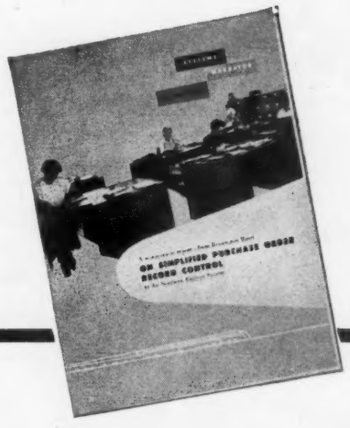
SUBSIDIARY OF PITTSBURGH FORGINGS COMPANY

How they've simplified purchase order paperwork on the *SOUTHERN RAILWAY SYSTEM*

• By doing away with a system that called for the entering in ledgers and filing of purchase orders and invoices in bulky, bound volumes, the Southern Railway System has reduced clerical work hours in their Purchasing Department more than 35%. Also, they've made vendor account information much more easily accessible for executive review. Here's how simply their new system operates:

1. All invoices and correspondence on each purchase order are accumulated in *one* Remington Rand Visible-Tipped Follow-Up Folder. This folder is so designed that the heading, clipped from an order copy, can be inserted in the visible tip as a label showing vendor's name and order number.
2. Accounts are divided into five major alphabetical groups. Each group is handled by one clerk who specializes on those particular accounts. Folders are filed according to the Remington Rand Variadex System (for utmost reference speed), in two desk-height Remington Rand Filing Cabinets, one on each side of the clerk's work table.
3. As each order is completed, papers are placed in an ordinary folder and transferred to an inactive file. The durable Visible Tip Folders are re-used again and again for new, active orders.

The money saved by Southern through not having to bind their orders will pay for their new, efficient equipment in a short time. But their greatest gain is a smoothly operating purchase order routine under close administrative control.



Free to Purchasing Agents: A condensed 4-page summary of the Southern Railway's Purchase Order system, "before and after", with step-by-step description of its many economies, which may be applied to *your* own procedures.

Remington Rand INC

Management Controls Reference Library, Room 1031
315 Fourth Avenue, New York 10, N. Y.

Please furnish free copy of "Simplified Purchase Order Control" (SN 768).

Name_____ **Title**_____

Company_____

Address_____

City_____ **Zone**_____ **State**_____

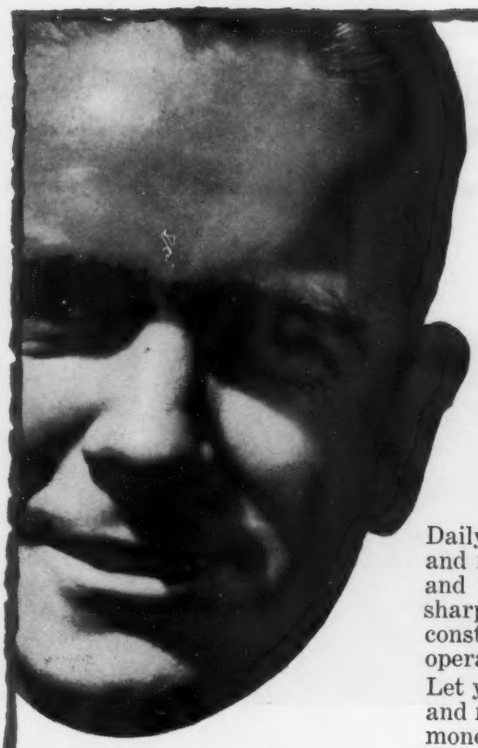
Glidden Salutes

a great railroad

...ANOTHER USER OF

Glidden RAILWAY FINISHES

QUALITY Glidden PRODUCTS



whether you manufacture

buttons or bulldozers . . .

here's a good man to know!

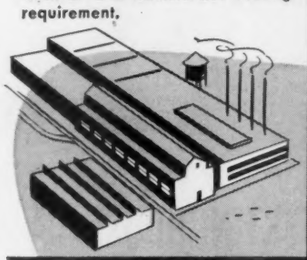
your Carey Industrial Sales Engineer

Trained to solve your building construction and maintenance problems . . . boost efficiency of your processing and manufacturing operations

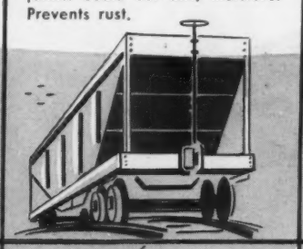
Daily experience with diversified problems in construction and maintenance of buildings . . . as well as manufacturing and process operations . . . keeps this man's skills razor sharp. Use these skills to cut the fat from *your* building construction and maintenance costs . . . to whittle down operating expense!

Let your Carey Industrial Sales Engineer tell you how these and many other Carey industrial products can help you save money, cut costs!

Built-up Roofing—for every industrial and commercial roofing requirement.

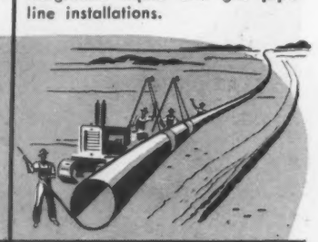


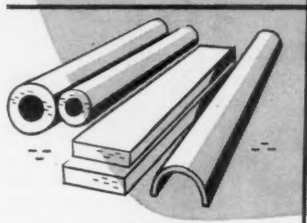
Car Cement for coating interior and exterior metal surfaces and joints. Seals out dirt, moisture. Prevents rust.



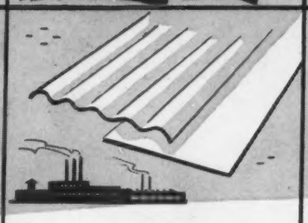
Asbesto-Sorb — thirsty fibers of asbestos that soak up oil, water, chemicals, to help maintain safety underfoot.

Pipe Line Felt — prevents corrosion and breakdown of vital underground liquid and gas pipe line installations.

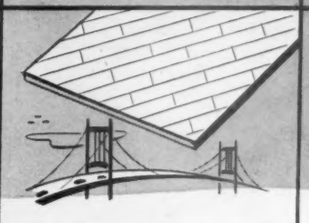




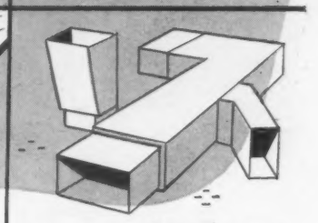
Super-Light 85% Magnesia Insulation—To prevent loss of heat energy in power plants, processing, manufacturing and plant heating operations.



Careystone Asbestos-Cement—a versatile roofing and siding material available in flat or corrugated form; resists fire, weather, corrosive chemicals.



Asphalt Plank—tough, boardlike, with a mineral surface that defies wear, prevents skids. Widely used for bridge and industrial flooring applications.



Careyduct—non-corrosive asbestos-cement duct to keep buildings breathing easy.

From the House of Carey—
Serving Industry Since 1873

Write for the name and address of the Carey Industrial Sales Engineer in your locality!

Carey.

The Philip Carey Mfg. Company, Lockland, Cincinnati 15, Ohio
In Canada: The Philip Carey Co., Ltd., Montreal 25, P.Q

Congratulations ERIE Railroad

on 100 years of service to America!

ERIE The Cardwell Westinghouse Co. has been a Supplier of the Erie Railroad for many years.

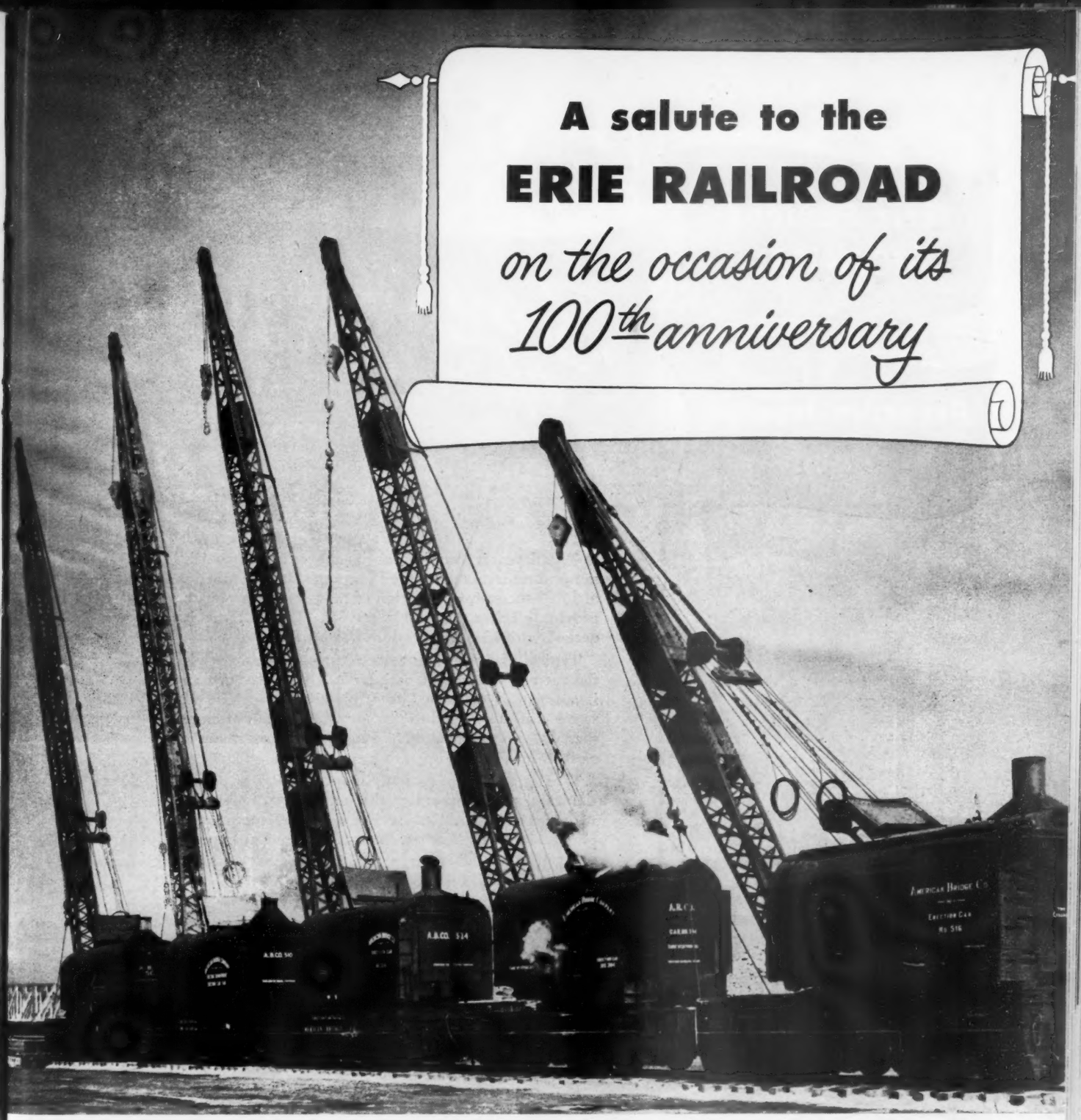
WESTINGHOUSE
Friction Draft Gear
Certified A. A. R.

CARDWELL
Friction Bolster Springs
for A. A. R. and
Long Travel Springs

5579

Over 98% of the Cars in Freight Carrying Service are A. A. R. Construction, and Over 96% have Friction Draft Gears.

Cardwell Westinghouse Co., Chicago
Canadian Cardwell Co., Ltd., Montreal



AMERICAN BRIDGE COMPANY heartily congratulates this important railroad on reaching the century mark!

Though only half as old ourselves, we know the satisfaction the Erie must feel from having contributed so immeasurably to the tremendous development of the area it has served so well through the years.

It has been a privilege for American Bridge Company to have participated in the Erie's expansion and modernization by fabricating and erecting many of the bridges along its lines. May the years ahead see a continuation of the progressive spirit that has made the Erie truly one of America's great transportation systems!

AMERICAN BRIDGE COMPANY

General Offices: Frick Building, Pittsburgh, Pa.

Contracting Offices in: AMBRIDGE · BALTIMORE · BOSTON · CHICAGO · CINCINNATI
CLEVELAND · DENVER · DETROIT · DULUTH · ELMIRA · GARY · MINNEAPOLIS · NEW YORK
PHILADELPHIA · PITTSBURGH · PORTLAND, ORE. · ST. LOUIS · SAN FRANCISCO · TRENTON
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

USS TRADE MARK

AMERICAN BRIDGE

UNITED STATES STEEL

Erie Railroad
1851-1951

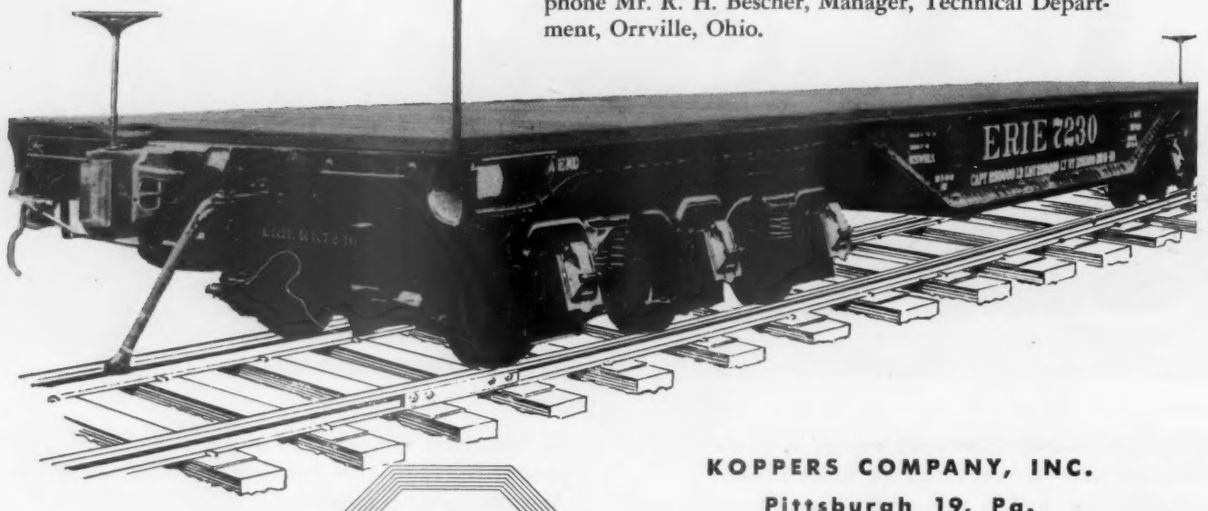
Pressure-treated
Wood

Banners of Progress

● This flat car is a vast improvement over the cars which ran on Erie tracks a hundred years ago. It is indicative of Erie's successful utilization of modern equipment to provide efficient, profitable service. This flat car is decked with Koppers Pressure-treated Wood.

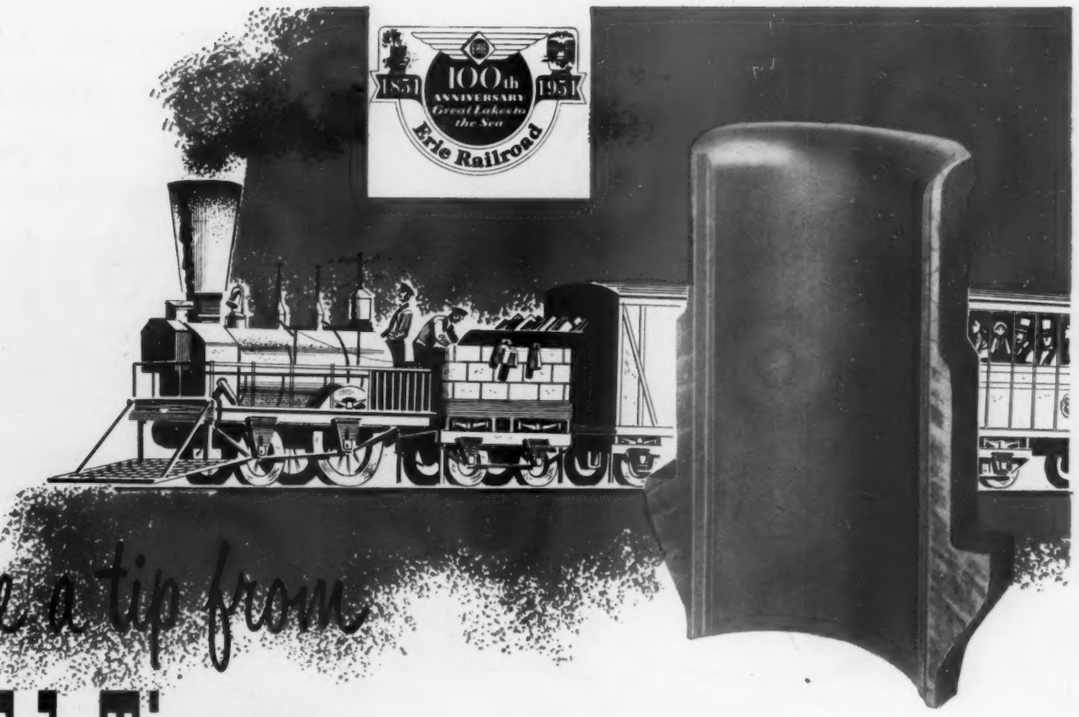
Typical of Erie's acceptance of pressure treatment is the current schedule of decking 100 flat cars. Such an investment is calculated to triple the service life of wooden members, and to pay annual dividends of more than 60% on the investment. Progressive managment is alert to such sizable operating economies.

We'll gladly make an analysis and a report of potential savings to your company through the use of pressure-treated car lumber. Such service is free. Write, wire or phone Mr. R. H. Bescher, Manager, Technical Department, Orrville, Ohio.



KOPPERS COMPANY, INC.
Pittsburgh 19, Pa.

KOPPERS PRESSURE-TREATED WOOD



take a tip from

2 old Timers

When a railroad such as the Erie has been a going concern for 100 years—some not such easy years at that—it's a safe bet that a good many operating problems have had to be met and solved.

In lots of cases these solutions depend on close cooperation of suppliers . . . and National Bearing Division is proud to say that we've been working together with the Erie for almost a half-century.

National Bearing Division has had problems, too, in 75 years of producing Journal Bearings . . . problems that have been successfully solved to set the pace for higher speeds, heavier loads and greater car mileage per day in freight service.

Journal Bearings
Engine Brasses
Motor Support Bearings
Centrifugally Cast Rod Bushings

NBM

AMERICAN **Brake Shoe** COMPANY

NATIONAL BEARING DIVISION

4937 Manchester Avenue • St. Louis 10, Mo.

PLANTS IN: ST. LOUIS, MO. • MEADVILLE, PA. • NILES, OHIO • PORTSMOUTH, VA. • ST. PAUL, MINN. • CHICAGO, ILL.

A DROP-END GONDOLA REQUIRES A LEVER-TYPE HAND BRAKE

Special safety conditions not common to any other type of freight car are involved in the application of hand brakes to drop-end gondolas. That's why the Equipco Lever-Type Hand Brake was designed especially and exclusively for drop-end gondolas. It permits firm footing for the brakeman. He is not required to hang on to the car side-ladder while operating the hand brake—his body is within the sides of the car at all times. He is never in danger due to "close clearance" conditions. He has a clear view ahead—can safely and accurately "spot" the car in desired position... The Equipco Lever-Type Hand Brake is economical to install. Applied to corner post, no mounting plates are required... A.A.R. Certified.

UNARCO

Equipco Hand Brake Department

UNION ASBESTOS & RUBBER COMPANY

332 South Michigan Avenue • Chicago 4, Illinois

DIESEL FREIGHT LOCOMOTIVE

St. Louis-San Francisco Railway Company

Over eight million unit miles on...

Efficient diesel locomotives keep freight moving swiftly on the Frisco Lines. Thirty-nine of these hard-working diesel locomotives have totaled over eight million unit miles of operation on STANDARD HD Diesel Oil. Clean, protective lubrication by this outstanding heavy-duty lubricant has helped keep maintenance costs low and engines operating at top efficiency.

On more than 70 railroads, STANDARD HD Diesel Oil has proved its ability to provide safe, effective lubrication under the severest conditions of diesel operation. The benefits it offers are worth investigating! Make use, too, of the services offered by a Standard Oil Railway Department representative. He has the training and practical experience to help you.

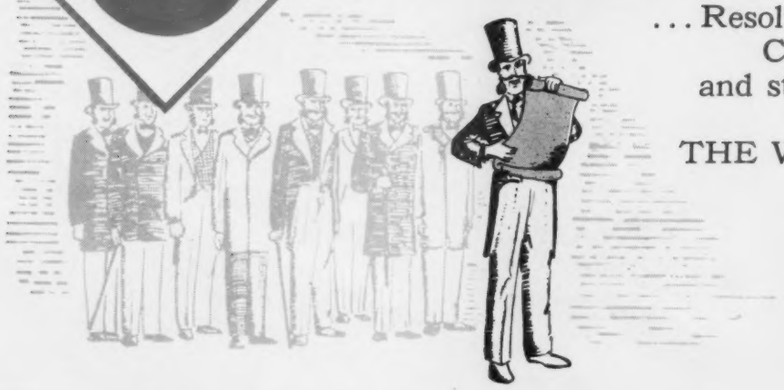
STANDARD HD
TRADE MARK
Diesel Oil

Standard Oil Company (Indiana), 910 South Michigan Avenue, Chicago 80, Illinois.

STANDARD OIL COMPANY (INDIANA) STANDARD

ERIE

"THE WORK OF THE AGE" in 1851



. . . Resolved: that we hail the Completion of this gigantic and stupendous work as emphatically THE WORK OF THE AGE . . .

— The Board of New York City Aldermen, to the directors of the New York & Erie Rail Road Company, June 13, 1851.

But they should see you now!

We wish old Dan'l Webster, President Fillmore, and the rest who made that famous trip over the main stem of the Erie in 1851, could behold the progress you have made.

We, of the Western Railroad Supply Company, congratulate you on your first century of service to the nation, and wish particularly to commend your efforts in behalf of safety.

We're proud, indeed, that WRRS Model 10 flashing light-automatic gate type signals are the protection you depend on to make so many of your railroad-highway grade crossings safe — 24 hours a day.

WESTERN RAILROAD SUPPLY COMPANY

In New York
WRRS
30 Church Street

General Offices and Factory
2428 SO. ASHLAND AVE.
CHICAGO 8, ILL.

In Cleveland
STANLEY H. SMITH CO.
1020 Midland Bldg.

One Of Many ERIE Railroad Bridges Built With POZZOLITH CONCRETE

EXPERIENCE of Erie Railroad Company and many other leading railroads shows that Pozzolith is a valuable "tool" in the construction of bridges, tunnels, retaining walls and all other types of concrete work.

Pozzolith's cement dispersion PUTS MORE OF THE CEMENT TO WORK . . . cuts water-cement ratio up to 15% . . . entrains the optimum amount of air. These are the reasons why only Pozzolith assures the following combination of advantages:

- EASY PLACEABILITY
- MINIMUM SHRINKAGE
- MAXIMUM STRENGTH
- MAXIMUM DURABILITY
- MAXIMUM BOND OF CONCRETE TO STEEL
- MAXIMUM ECONOMY

These advantages of Pozzolith have been proved over a period of twenty years in all types of normal and emergency construction.

Full information and literature on request.

More Than 8,000,000 Cubic Yards Of Pozzolith Concrete Were Placed In 1950

OTHER MASTER BUILDERS PRODUCTS IN WHICH CEMENT DISPERSION IS EMPLOYED

EMBECO...
For non-shrink grouting and re-integration.

MASTERPLATE...
For "iron-clad" concrete—industry's toughest floor. Non-colored and 11 colors.

MASTERTEX...
Cement-base paint of low permeability for protecting and decorating exterior and interior surfaces of concrete and masonry.

OMICRON MORTARPROOFING..
For tight brick walls. Provides good workability with 15-20% less water, correct water retentivity. Contains stearate.

the MASTER BUILDERS Co

CLEVELAND 3, OHIO — TORONTO, ONTARIO

ERIE
DOUBLES
TELETYPE MILEAGE
SINCE
1940

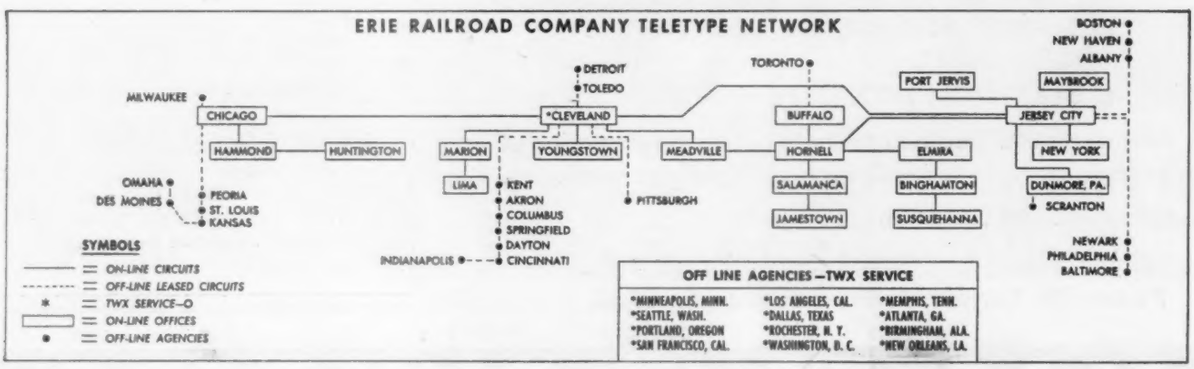
Portion of Erie's modern Jersey City office with transmitters (left) and consoles housing Teletype reperforators.

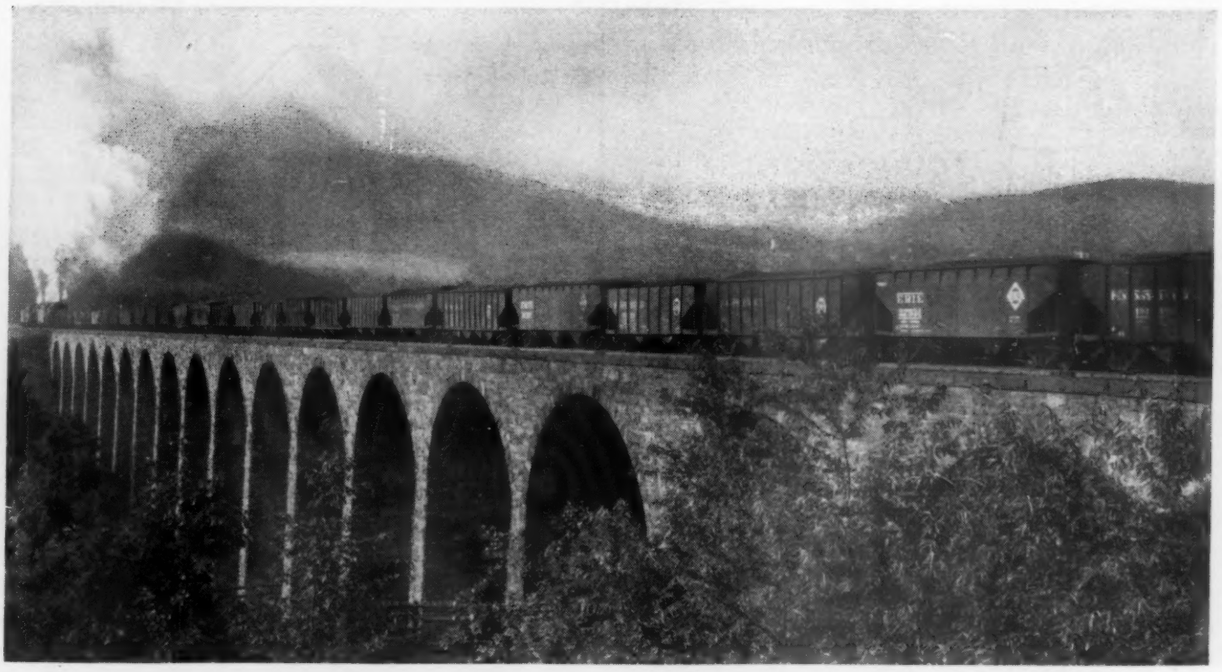
THE ERIE RAILROAD in 1940 used 2483 miles of Teletype circuits. By 1951—the Erie's 100th birthday—this mileage has been doubled. In addition, leased circuits and TWX service connect all Erie sales agencies in the United States and Canada to Erie's on-line Teletype network.

This increase in Teletype facilities has helped the Erie maintain its fine reputation as a fast freight carrier. Using train lists Teletyped from reporting yards, the Erie's trace bureaus can answer inquiries from shippers and consignees quickly and accurately. Diversions and reconsignments have been speeded up by handling switching lists on Teletype circuits.

To learn how printed communications can speed up operations and minimize delays on your road, get in touch with: Teletype Corporation, 1400 Wrightwood Avenue, Chicago 14, Illinois.

TELETYPE
REG. U.S. PAT. OFF.
CORPORATION
SUBSIDIARY OF
Western Electric Company
INCORPORATED





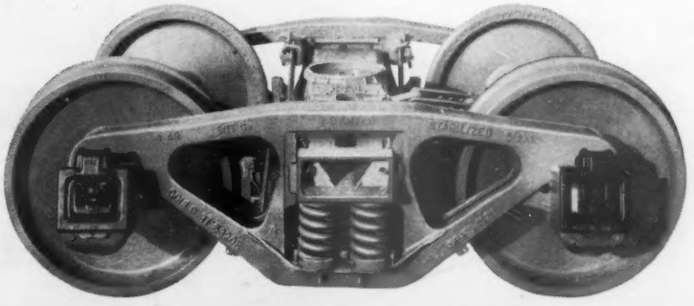
U. S. president Millard Fillmore was there!

May 14, 1851 U. S. President Millard Fillmore rode a Hudson River Boat to Piermont, New York where he boarded the first train to make a trip on the Erie Railroad.

He was accompanied by the largest group of U.S. Government Officers, and candidates for the coming national elections, ever to assemble for such an occasion.

Congratulations, Erie Railroad, from Standard Car Truck Company, manufacturers of Barber Variable Friction Stabilized Trucks.

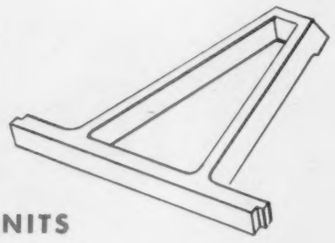
Standard Car Truck Company has served the Erie Railroad more than a half of its interesting century of growth — and Barber Products have contributed their share in making it the outstanding Railroad Property it is today.



STANDARD CAR TRUCK COMPANY
332 SOUTH MICHIGAN AVE., CHICAGO, ILL.

5580

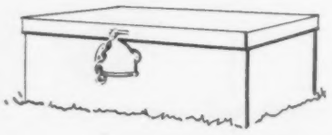
SIGNAL FOUNDATIONS



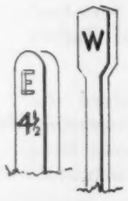
TRI-CRIB UNITS

BOOTHS

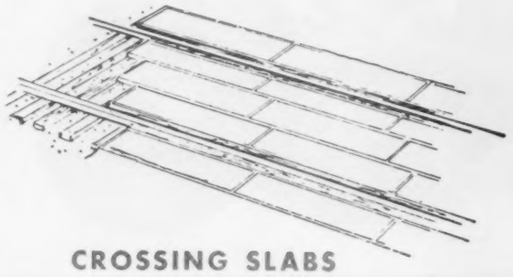
HOUSES



BATTERY BOXES



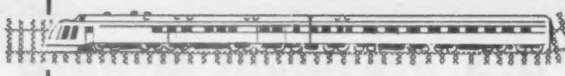
POSTS



CROSSING SLABS

ERIE

Congratulations to the ERIE



We join in congratulating the Erie Railroad on its Centennial Anniversary. And we are proud that Permacrete products have contributed to the Erie's outstanding record for progressive and economical operation. Like many other important railroads, the Erie was quick to accept the many advantages of Permacrete sectional, steel-reinforced, precast concrete products over poured-in-place installations. They have learned from actual experience that Permacrete Products provide greater safety, years of dependable maintenance-free service and effect substantial savings on final cost-in-place.

Complete catalog available on request

PERMACRETE
PRODUCTS CORPORATION

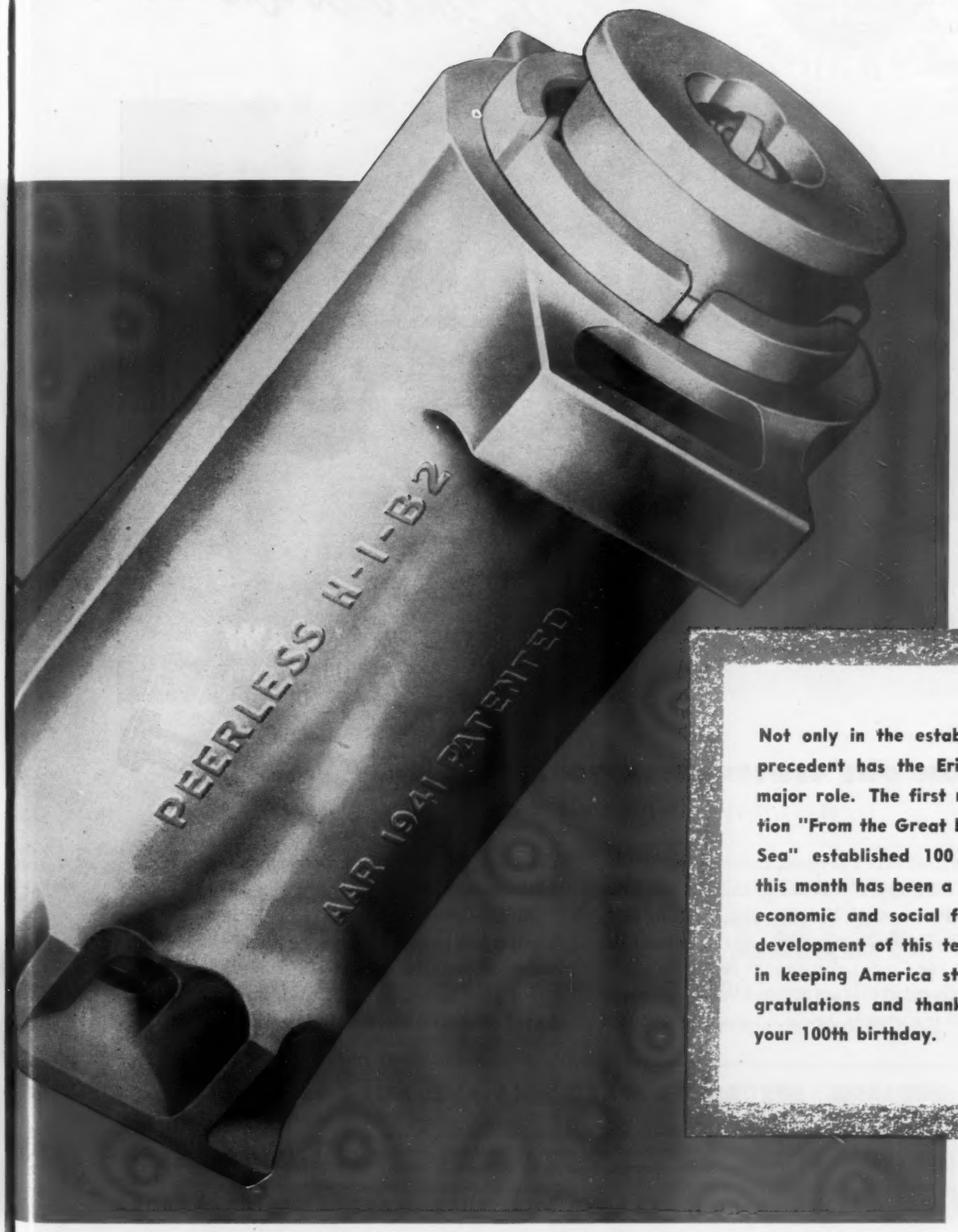
COLUMBUS 7, OHIO
Plants and offices in principal cities

THE MOST COMPLETE LINE OF SECTIONAL *Precast Concrete* RAILROAD PRODUCTS

ERIE

"Poppy" Ayers was the first conductor on an Erie train. He rigged up a rope signal to his engineers—and when one of them refused to obey these signals, "Poppy" went forward at a station stop and thoroughly licked the engineer. Thus railroad precedent was established—today the conductor is in charge of the train on American railroads.

(Excerpt from a speech by Robert E. Woodruff, President, Erie Railroad Company.)



Not only in the establishment of precedent has the Erie played a major role. The first rail connection "From the Great Lakes to the Sea" established 100 years ago this month has been a tremendous economic and social force in the development of this territory and in keeping America strong. Congratulations and thanks, Erie, on your 100th birthday.

PEERLESS EQUIPMENT COMPANY

332 SOUTH MICHIGAN AVENUE • • • • • CHICAGO 4, ILLINOIS

Congratulations

FROM ONE CENTENARIAN TO ANOTHER!

It's great to be a hundred, and still going strong.

In 1851, Erie's "iron horse" chugged 446 miles from Piermont, N. Y. to Dunkirk, N. Y. In 1951, its diesels streak along 2200 miles of railroad between the Great Lakes and the Sea.

We're proud that our 106 year history has paralleled our customer, Erie's . . . enabling us to aid this record growth with locomotive nuts and other fasteners for railway service.

We have grown too . . . from a room in a Connecticut button shop to one of the world's leading makers of bolts, nuts, rivets and screws.

For your future, Erie Railroad, we wish continued growth in the soil of American freedom.

RUSSELL, BURDSALL & WARD BOLT AND NUT COMPANY

Plants at: Port Chester, N. Y., Coraopolis, Pa., Rock Falls, Ill., Los Angeles, Calif. Additional sales offices at: Philadelphia, Detroit, Chicago, Dallas, Oakland. Sales agents at: Portland, Seattle.

106 YEARS MAKING STRONG THE THINGS THAT MAKE AMERICA STRONG

EXCLUSIVE

FLUID DRIVE
reduces
clutch wear

HYPOID GEARING
30% greater strength

CHRYSLER ENGINE
65HP industrial engine
with floating power

AUTOMOTIVE TYPE SAFETY BRAKES
smooth brake action

SHOCKLESS STEERING
passenger car
steering ease

ROLLER CARRIER UPRIGHTS
low friction—long life

Only YALE combines all these modern engineering achievements in one superior gas truck!

NOW READY FOR YOU... developed to peak efficiency after 2 years of intensive on-the-job testing

JUST LOOK at the engineering and technical improvements built into this new YALE Fork Lift Gas Truck!

Here are exclusive features that will bring more time-saving, man-saving, money-saving advantages to your materials handling than was ever before possible!

In every vital part of this truck you get the finest new developments in automotive engineering—every part built for years of hard service—every part tested and re-tested under rugged on-the-job conditions.

That's why today you get smooth, powerful gas truck operation day-in day-out. On steep ramps, rough roadways, in any weather—this YALE Gas Truck *delivers*, moves, lifts and stacks the goods. Let us show you exactly *how* YALE can accomplish all of this in your plant. Write for the facts today.

Capacities up to 10,000 pounds

THE YALE & TOWNE MANUFACTURING COMPANY

In Canada write The Yale & Towne Manufacturing Company, St. Catharines, Ontario.

YALE is the registered trademark of The Yale & Towne Manufacturing Co.

Congratulations
ERIE!
On 100 years of splendid service to the nation

YALE
MATERIALS HANDLING EQUIPMENT
Philadelphia 15, Pa.

SAVE STEEL

STOP RUST

With

For Reduction of Maintenance Costs – Postponement of Replacement with Hard-to-Get Metals

Metals that are rustable are as essential to railroading as the railroads are to the nation — and RUST-OLEUM'S protection against rust extends the useful life of iron and steel economically.

When you use RUST-OLEUM, durable, reliable protection is assured for rolling stock, metal buildings, bridges, towers, signal equipment — adding years to the usefulness of *any rustable* railroad property.

Cut Your Maintenance Cost

Rescue metal that has already started to rust. RUST-OLEUM can be applied *even* over metal already rusted — usually without sandblasting or the use of chemical cleaners. Simply scrape and wire brush to remove rust scale and loose rust. Then apply RUST-OLEUM by brush, dip or spray. It stops the rust, and promptly dries to a firm, pliable, rust-resistant protective coating.

It's the practical answer to many of your rust problems. If you have not adopted RUST-OLEUM, arrange a trial. If you have questions or special problems, write us.

Ask for the new catalog of railroad applications, listing the many colors (including white and aluminum).

"Rigid Economy, Mon!"

RUST-OLEUM CORPORATION
2583 Oakton Street, Evanston, Illinois

IT TAKES ALL 3...

to keep your Diesels at Peak Efficiency!

No one knows all the answers to the problems arising from modern railroad Diesel operation. They are so varied, so complex.

But, through the cooperation of builders, operators, and oil suppliers, many of these problems have been solved...others are being solved every day.

We have been part of this cooperative research effort ever since we lubricated Dr. Diesel's first engine . . . and we're working even harder today! As a result, we have come up with new lubricating oils which contain all the known desirable properties for railroad operation. These oils are being used with exceptional results on many major roads today!

Our broad experience, our research facilities and our new products are available to you now to improve *your* Diesel operations. Give us a call.

SOCONY-VACUUM OIL CO., INC., RAILROAD DIV., 26 Broadway, New York 4, N.Y.

SOCONY-VACUUM

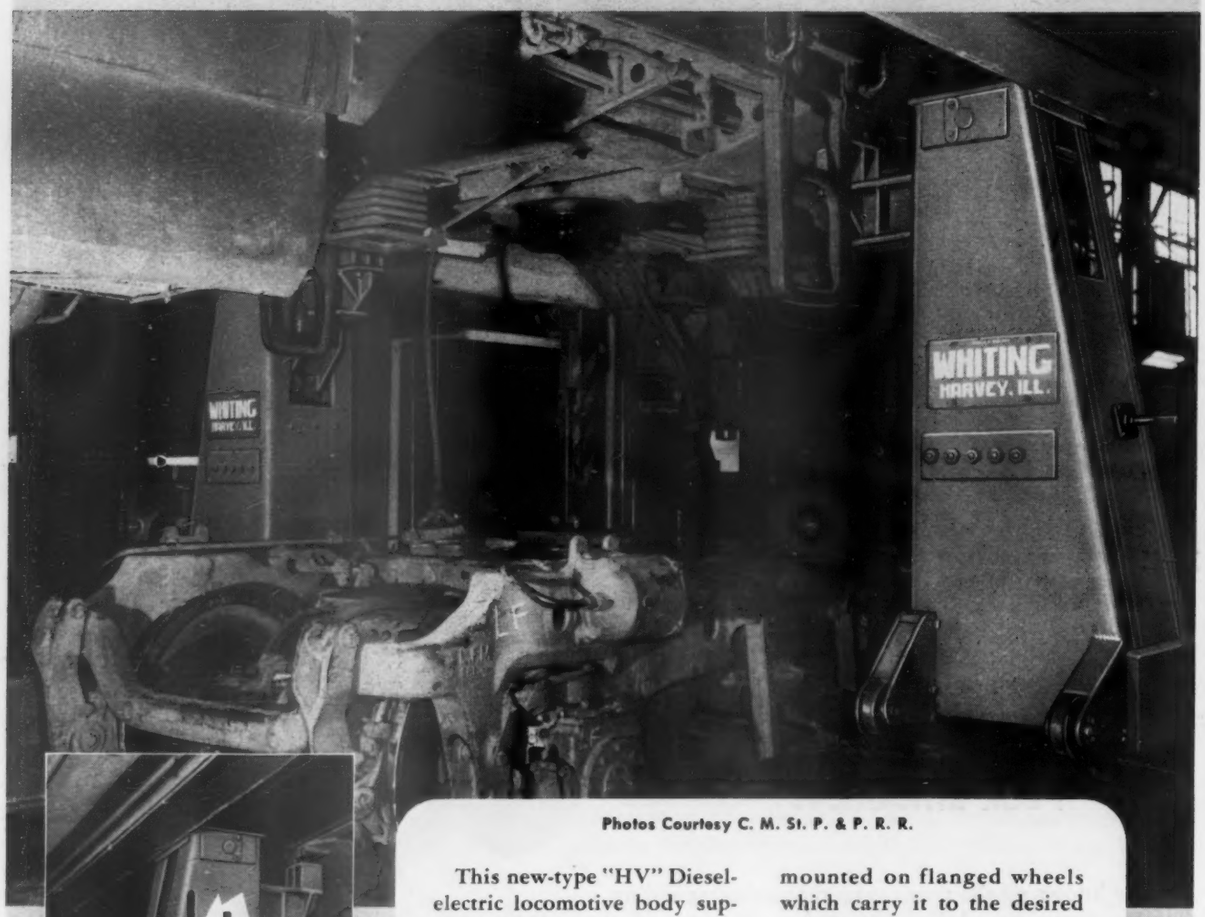
Railroad Lubricants

SOCONY-VACUUM

Correct Lubrication

WORLD'S GREATEST LUBRICATION KNOWLEDGE AND ENGINEERING SERVICE

SAVE SPOTTING TIME...
with this NEW-TYPE WHITING BODY SUPPORT



Features of Whiting "HV" Body Support: (A) Flanged wheels for spotting; (B) Crank for extending support arm; (C) Crank for raising support arm.

Photos Courtesy C. M. St. P. & P. R. R.

This new-type "HV" Diesel-electric locomotive body support is Whiting Corporation's latest contribution to the demand for faster, easier shop operation. It is used with the Drop Table in the new Milwaukee Shops at Bensenville, Ill., to save spotting time.

The "HV" body support is mounted on flanged wheels which carry it to the desired spot. Body support arm is then moved in or out, or raised to the jacking pad by means of hand-operated cranks. This 3-way control reduces spotting time to seconds.

Write for complete specifications, today.

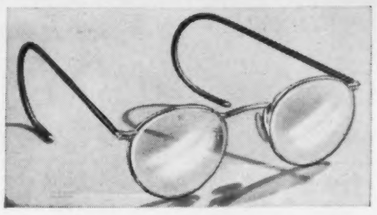
WHITING CORPORATION

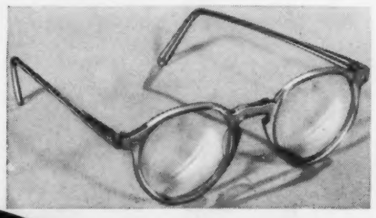
15603 Lathrop Avenue, Harvey, Illinois

RAILROAD MAINTENANCE EQUIPMENT

Offices in Chicago, Cincinnati, Cleveland, Detroit, Houston, Los Angeles, New York, Philadelphia, Pittsburgh, St. Louis, and Seattle. Representatives in other principal cities. Canadian Subsidiary: Whiting Corporation (Canada) Ltd., Toronto, Ontario. Export Department: 30 Church Street, New York 7, N. Y.

KIMBALL *Sight Savers* AT WORK





Precision machines in the hands of skilled workers producing KIMBALL Safety Lenses for eye protection of American Labor. In the lense grinding department of Kimball Safety Product's new modern plant, clear or tinted lenses are ground to prescription specification. Customer satisfaction is absolutely guaranteed with every pair of KIMBALL safety lenses.

Manufacturers of:

EYE PROTECTION:
Spectacle Goggles, Welding Goggles, Composition Goggles, Sideshields.

HAND PROTECTION:
Gloves; Welder's, Asbestos, Steel Stitched, *Mittens;* Welder's, Asbestos, Steel Stitched.

BODY PROTECTION:
Clothing; Wool, Flame-Proofed Cotton. *Leggins and Spats;* Leather, Asbestos, Flame-Proofed Cotton.

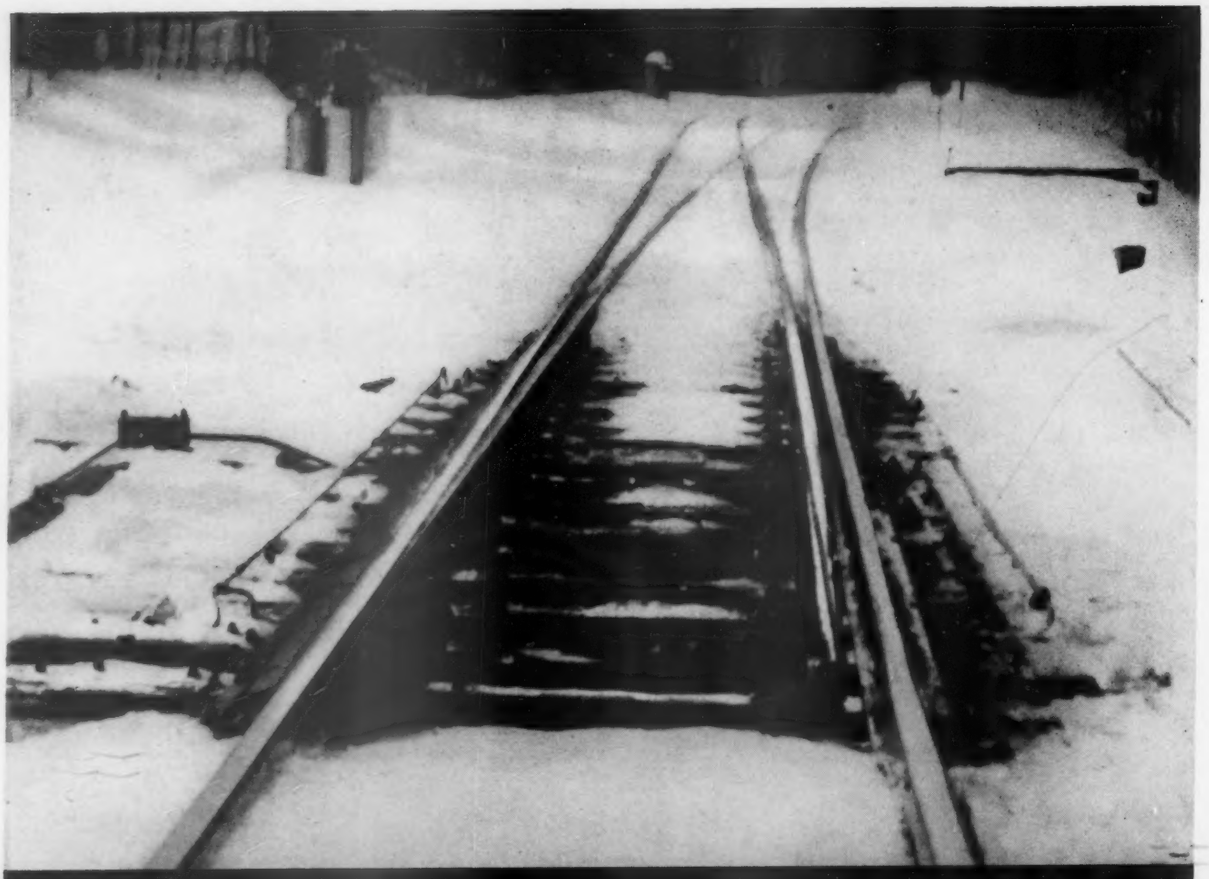
APRONS:
Leather, Asbestos, Flame-Proofed Cotton.

Kimball

SAFETY PRODUCTS COMPANY

9310 WADE PARK AVENUE
CLEVELAND 6, OHIO

TAILORED SERVICE
wins tonnage for the Lehigh Valley
Keeping down the shipping bills and providing faster service is the double-barreled achievement that is winning new customers for the Lehigh Valley.
"Custom-made" scheduling, with close co-operation between the railroad and its shippers, is the key to the success of this new service. The resulting loading schedule allows exceptionally long hauls before breaking bulk, reducing the cost of transfer handling and cutting loss and damage potential. And, with Alco-GE freight diesel-electrics on the job new and faster schedules are easily maintained.
The fast, dependable service provided by the Lehigh Valley is a prime example of the way progressive railroads are meeting tough competition. Alco-GE locomotives can help you provide this service to *your* customers.
AMERICAN LOCOMOTIVE
and
GENERAL ELECTRIC
113-259



Low Cost Winter Protection For Switches

Rail-Tel Switch Heaters provide unfailing, economical protection in busy terminals and yards and out along the line — particularly where C.T.C. territory is involved. Available in both manually operated and remote controlled assemblies, these heaters are ruggedly built and easy to install.

THE RAILS COMPANY

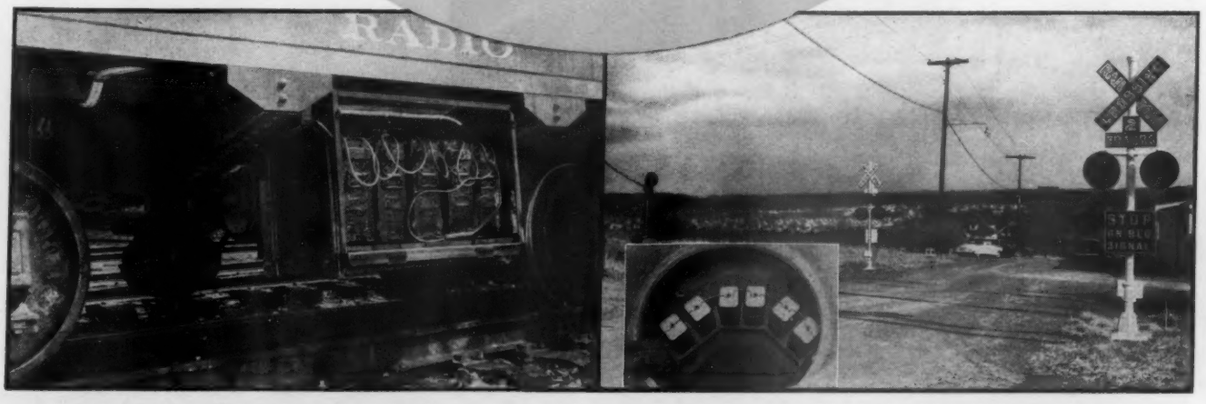
General Office
178 GOFFE STREET, NEW HAVEN 11, CONN.

ST. LOUIS, MO. HOBOKEN, N. J. CHICAGO, ILL.

This year marks the centennial of the completion of the New York and Erie Railroad, now the Erie, from Piermont on the Hudson River to Dunkirk on Lake Erie which provided the first rail connection "from the Great Lakes to the Sea."

Today the Erie is a major trunkline in the East; extends all the way from the Port of New York to Chicago; serves "The Heart of Industrial America"; gives employment to 20,000 people; continually improves its capacity for service, its investment for improvements having amounted to $90,000,000 in the past 5 years.

Among these recent improvements was the adoption of radio train-communication and centralized traffic control. Our company is proud to have assisted the Erie in its application of electric power to these improvements as well as to earlier advancements including the lighting and air conditioning of passenger-train cars, the installation of automatic and highway crossing signals and many other signaling functions, two of which are illustrated here.



These caboose batteries were installed in 1948 after 22 to 25 years of car-lighting service.

Edison Primary Batteries serve as stand-by power source for many Erie highway crossing signals.

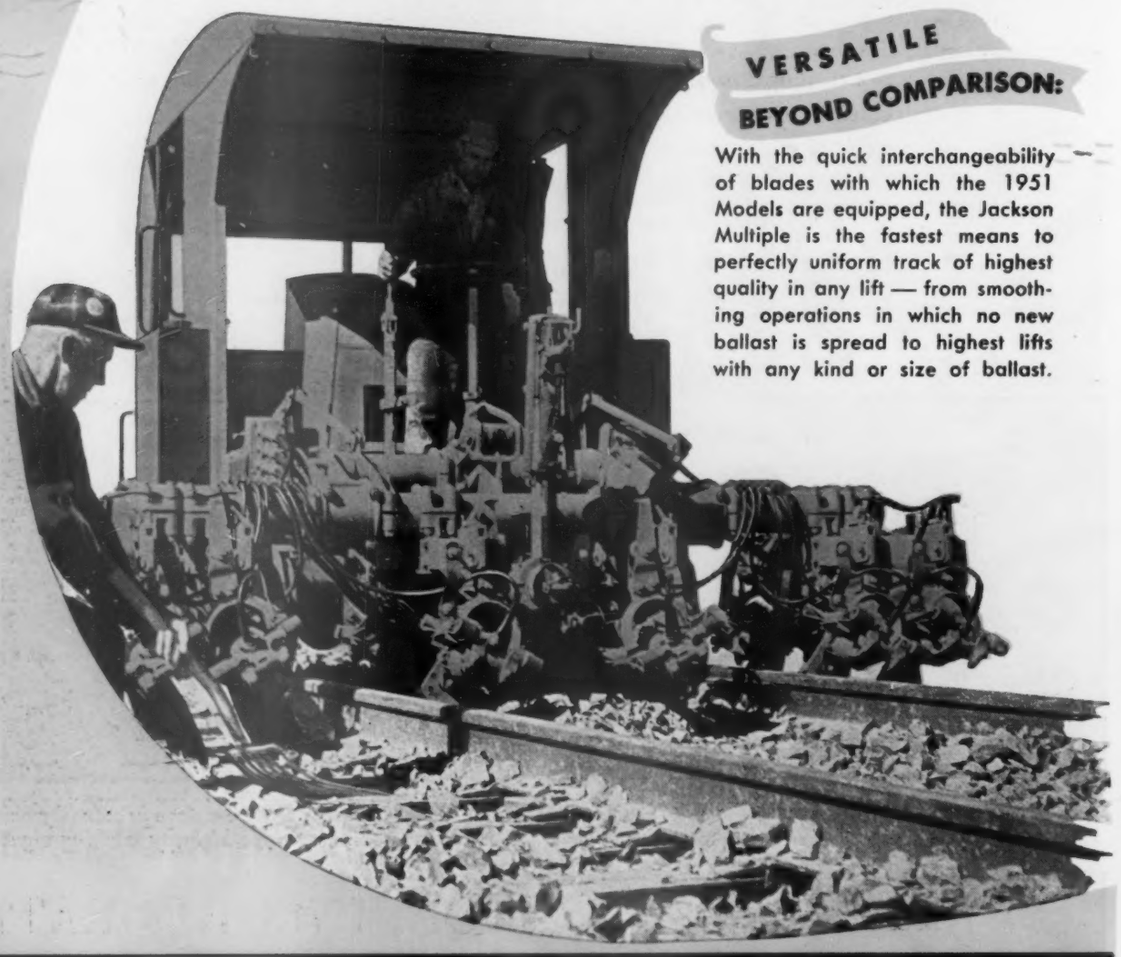
THOMAS A. EDISON, INCORPORATED

Storage Battery Division • *Primary Battery Division*

WEST ORANGE, N. J. • **BLOOMFIELD, N. J.**

JACKSON
MULTIPLE TIE TAMPERS
PAY 100% DIVIDENDS!

Maintenance chiefs and railway contractors have reported that their Jackson Multiple Tampers not only more than saved their entire cost in a single season — a 100% return on investment — but also produced the finest, most uniform track in their experience. We honestly believe that no one responsible for track maintenance in these days of labor shortage and terrific traffic demands can afford to remain unacquainted with the tremendous advantages of this equipment. Why not drop us a line for complete information, right now,



VERSATILE BEYOND COMPARISON:

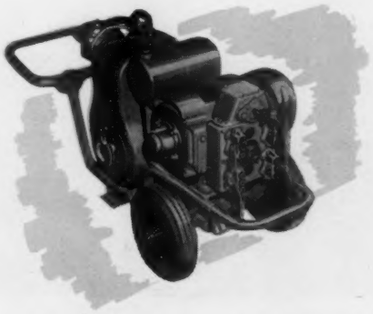
With the quick interchangeability of blades with which the 1951 Models are equipped, the Jackson Multiple is the fastest means to perfectly uniform track of highest quality in any lift — from smoothing operations in which no new ballast is spread to highest lifts with any kind or size of ballast.

ELECTRIC TAMPER & EQUIPMENT CO., Ludington, Mich.

JACKSON
UNIT TIE TAMPERS

Greatest Expediters of Section Gang Productiveness! Surpassed, in EXTRA Gang Service, ONLY by the JACKSON MULTIPLE!

By any comparison you wish to make, you'll find Jackson single unit tie tampers and Jackson Power Plants the finest means of mechanizing your section gangs and solving the labor shortage problem. The Power Plant, which serves one to four tampers, is easily portable and therefore suitable to the very small section gang employing only two tampers, as well as being ideal for the normal size gang. And since it generates both single-phase and 3-phase, 115 volt 60 cycle AC it may be used for lights and operating power tools as well as tamping. Quick interchangeability of blades makes the tampers exceptionally adaptable to every use to which tampers may be put, and where sections are equipped with these four-tamper outfits, they may be grouped for extra gang service in major ballasting operations with results that are exceeded only by the Jackson Multiple Tie Tamper. Let us tell you more about them.

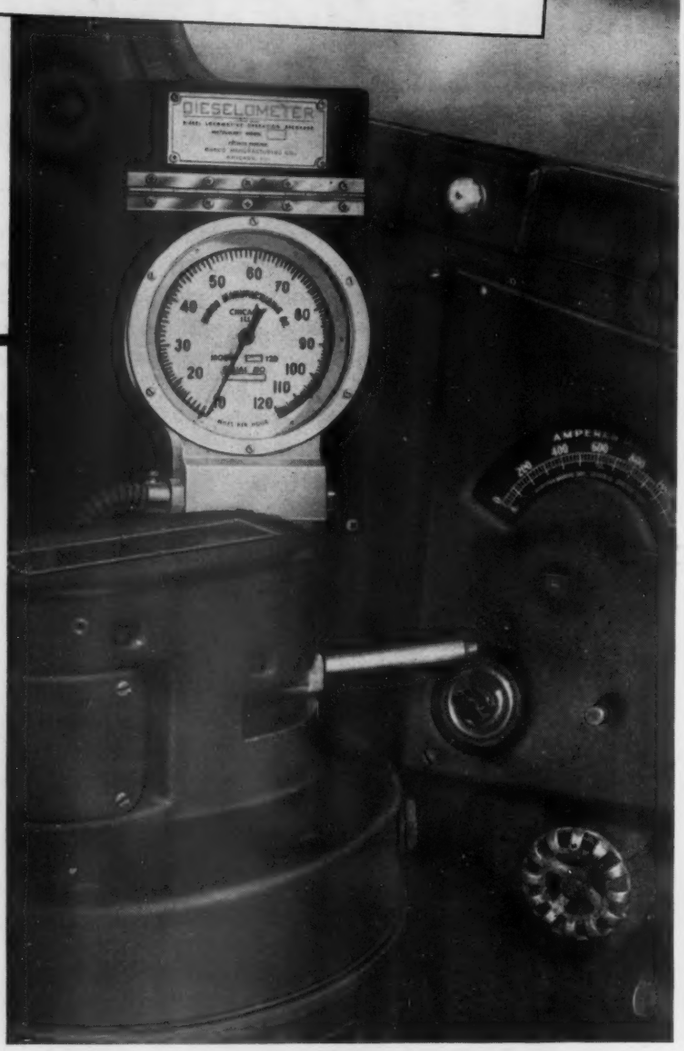


Jackson Model M-2 Power Plant from which 1 to 4 tampers may be operated. Other models of 2 and 8-tamper capacity are available.

ELECTRIC TAMPER & EQUIPMENT CO., Ludington, Mich.

ACCURACY, DEPENDABILITY

Proved by Millions of Miles of Service!



The accuracy and dependability of BARCO RECORDERS are unquestioned. A typical user* reports accuracy within 2% at 100 MPH after a million miles of service! This is the kind of performance you want and one reason why you should INSIST ON GETTING BARCO RECORDERS.

There are other equally important reasons. BARCO gives you the dependable, accurate records you need to insure efficient, profitable, safe operation of your equipment. When you consider the investment required for a locomotive, it does not pay to economize on instruments. BARCO RECORDERS HELP YOU GET THE MOST OUT OF YOUR INVESTMENT! *Let Barco give you the facts—ask for new catalog.*
BARCO MANUFACTURING CO.,
1800 F Winnemac Ave., Chicago 40, Ill.

**Name on request.*

BARCO

- SPEED RECORDERS
- SPEED INDICATORS
- DIESELOMETERS
- SWITCH ENGINE RECORDERS

Saluting

ERIE

1851 1951

FREE ENTERPRISE—THE CORNERSTONE OF AMERICAN PROSPERITY

ERIE...
take a bow on your
100 years of service!

ERIE

Equipment–for the road ahead

Seldom have American railroads been faced with a greater or more important job. More and more goods must be hauled as our civilian economy and military program expand. Larger fleets will be necessary. Obsolete and worn out equipment must be replaced.

Pressed Steel Car Company manufactures standard and custom built box cars, refrigerator cars, gondola and hopper cars famous for efficient performance on every major road in America.

We suggest you bring your requirements to us and make sure you are equipped and *prepared* for the road ahead.

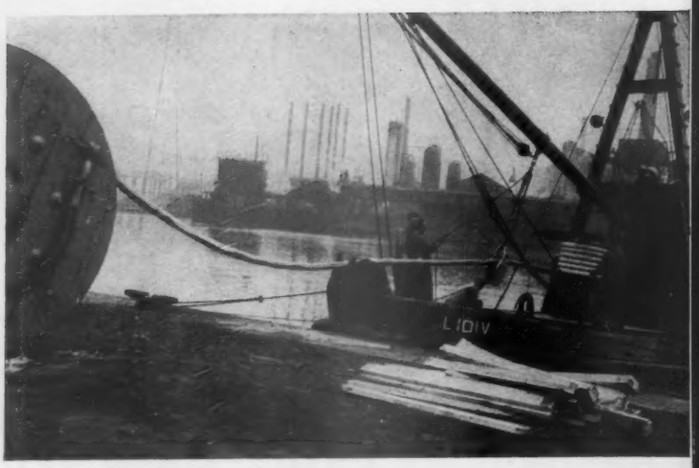
PSC

PRESSED STEEL CAR COMPANY, Inc.

6 No. Michigan Ave.
Chicago, Ill.

FIRST all steel hopper car 1897
FIRST all steel box car 1914
FIRST UNIFIED 1930

Mount Vernon, Ill.
Plant



Congratulations to the Erie. Okonite is proud to have had the opportunity to serve the Erie many times during their 100 years of progress.

←Transferring Okonite submarine signal cable from shipping reels to reel on cable boat.

Free end of first length of cable being hauled ashore. Hauling line ran from cable boat through snatch block on shore and back to boat's power capstan.
↓

PROGRESS
is an old story on the ERIE

The main line of the Erie Railroad spans the Hackensack River over a 1,000-foot bridge near Jersey City, N. J. At each approach, four tracks converge into two, necessitating extensive layouts of power-operated switches and crossovers on either side, controlled by an electric interlocking in a tower directly west of the bridge.

Because of costly maintenance problems with existing cables linking the control tower with the eastern network, the Erie recently replaced this system with two new submarine cables, well away from the bridge. Like 64 other leading Class I railroads, the Erie chose Okonite cables for long-lived, trouble-free, dependable performance.

Each cable in this installation is over 1,300 feet long, and contains 52 No. 12 Awg Okoloy-coated conductors insulated with stable, moisture-resistant Okolite protected with an Okoprene sheath. The assembled conductors are enclosed in a lead sheath with an outer protection of saturated jute and heavy galvanized steel armor wire.

There are many types of Okonite wires and cables specially designed for railroad use, for overhead and underground as well as submarine applications. Let an Okonite engineer show you the true economy of using the best cables, especially in these days of high installation costs. Or write for detailed information to The Okonite Company, Passaic, N. J.

THE BEST CABLE IS YOUR BEST POLICY

OKONITE SINCE 1878 *insulated wires and cables*

MR. KENNEDY WANTS TO BE PLAINTIFF—AND JUDGE AND JURY TOO

President W. P. Kennedy of the Brotherhood of Railroad Trainmen has written a letter—published in the San Francisco Chronicle of April 26—taking exception to that paper's analysis of the chaotic situation in railway labor relations. The Chronicle's able summary, published on April 12, was discussed in these pages in our April 30 issue.

Mr. Kennedy believes the railroad brotherhoods have been quite within their rights in refusing to accept awards of "emergency boards" in wage disputes. If such awards were to be legally binding, the result, he insists, would be "compulsory arbitration," which would mean "the end of the free enterprise system." He asserts further that the concessions the unions have wrung from the railroads by White House mediation, after refusing to accept emergency board awards, have been "just, right and legal." The present continuing impasse between the railway operating unions and railway managements over wages Mr. Kennedy blames upon the "phony seizure" of the railways by the Army, which has encouraged the railroads to refuse to make a "just and right settlement" with the unions.

Mr. Kennedy thus raises the question as to who is to determine what is "just and right" in railway wages. He certainly does not consider railway management competent to make this decision. He does not believe, either, that emergency boards or Dr. Steelman at the White House are competent to decide the question. The plain implication of his letter is that the unions themselves must have the final say on what is "just and right" for them; and he clearly believes that any curtailment of the union's freedom to strike to enforce these ideas of theirs would be akin to "Russian totalitarianism."

Mr. Kennedy, in other words, insists that the unions should be the sole and final judges of their own cause—which is the complete negation of the age-old precept to the effect that *no man should be allowed to be the plaintiff, judge and jury to decide his own case*—because, then, what chance of justice does the defendant have? In their constant demands for higher wages and more onerous working conditions, Mr. Kennedy and the leaders of the other operating unions are the plaintiffs and the railroads are the defendants. Mr. Kennedy denies the right of anybody—whether it be railroad management, government boards, mediators or arbitrators — to do anything but capitulate in full to his demands. Unadulterated egotism could scarcely hope to attain to more superb or more highly purified grandeur.

A wage is a price—and price in a free market is determined in reason and justice, as well as in practice, by the uncoerced bargaining of buyers and sellers. Most people concede, in the market for the services of labor, that "collective bargaining" is a sound procedure — that is, that employees should be empowered to act as a group in bargaining with employers over the price and conditions of their labor. *A "just and right" level of wages and working conditions, therefore, may be defined as one arrived at by uncoerced bargaining by employers and employees — the employees acting in a group if they so desire.* Such collective bargaining obtained for two or more generations in the case of the railway operating unions. The arrangement was satisfactory to

both employees and employers, and resulted in no public discomfort occasioned by strikes — until the past few years.

Prior to the enactment of the Railway Labor Act in 1926, there was no noteworthy public inconvenience arising from railway strikes, because strikes seldom occurred. When they did occur, as in the shop strike of 1922, railway service was not seriously disrupted, because the railways then found it relatively easy to recruit new employees to replace those who had struck. Strikes were costly for the railroads and involved serious risks for the unions — hence both parties usually approached the bargaining in a conciliatory spirit. The incentive toward a conciliatory attitude by both parties was further intensified in 1926 by the enactment of the Railway Labor Act in which the federal government said, in effect, to both railway unions and railway managements: *"You had better not let your disagreements threaten continued service to the public because, if you do, the government is going to step in and decide which party is unreasonable in its demands — thus mobilizing public opinion against this aggressor."*

This device worked perfectly until 1941, when the late Franklin D. Roosevelt failed to give his own emergency board the moral support contemplated in the law and, instead, used its members to wheedle concessions from the railroads beyond those the board had already proclaimed to be just and reasonable. Labor relations on the railroads have, as a result, been in chaos ever since that time.

How to Restore Order

Order can be restored, and what is "just and right" as to railway wages can be determined — not unilaterally, as Mr. Kennedy insists, but by ascertaining what the fair market price for railway labor is. The two parties can be encouraged to find what this fair market price is in either of two ways, viz., (1) by congressional repeal of all legislation handicapping management in combatting strikes when they occur; or (2) by provision for compulsory adjudication of disputes, with decisions binding on both parties. If the alternative (1) is chosen, the relatively peaceful conditions which existed in railway labor relations prior to the enactment of the Railway Labor Act in 1926 would be restored — a "balance of power," with both parties able to inflict such damage on each other in a strike that neither would often be tempted to risk such conflict. Alternative (2) would give the emergency board procedure of the Railway Labor Act even more peace-producing authority than it had before Mr. Roosevelt wrecked the machinery in 1941.

This paper, on principle, would favor the first alternative. As a practical matter, we favor the second — because we detect no disposition on the part of public opinion to discard such union-favoring measures as unemployment insurance payments to strikers; retention by strikers of pension rights; the anti-injunction law; the requirement for union recognition; and handicaps in employing strike-breakers. Peace secured by the device of a "balance of power" cannot be depended upon as long as one of the parties is so completely stripped of power when industrial conflict arises as railroad management now is.

Adjudication Is Not Control

Compulsory adjudication of disputes is by no means the same thing, as is often contended, as federal control of wages. The federal authorities would not get an opportunity to fix wages or working conditions under compulsory arbitration unless the parties to a dispute should refuse to settle the issue amicably. The fact that a federal tribunal would have the opportunity to strike down extreme claims would serve as a powerful incentive to both sides against taking an extreme position. Under such conditions both parties would have every reason to bargain with each other in good faith — and only by such bargaining is a "just and right" wage level likely to be attained. Compulsory adjudication of disputes, applicable only when disagreements have reached the stage of industrial warfare, does not constitute federal control of wages any more than courts for the peaceful settlement of disputes over business contracts constitute federal control of such contracts.

In any event, Mr. Kennedy's position — that what is "just and right" is a question to be decided solely by himself and the other union leaders — is a position which cannot be accepted by anyone loyal to the American tradition of justice. It is true that Joseph Stalin has declared that there can be no such immutable or eternal principles as that which forbids a party to a dispute to sit in judgement in his own cause. In the same vein, the late Supreme Court Justice Oliver Wendell Holmes cynically asserted that "truth is the majority vote of that nation that can lick all the others." Despite the support of such illustrious authorities, however, it has not yet become an accepted practice that any group of Americans shall have unrestrained power to price their own product as they see fit.

Indeed, it is the growth of the perverted notion that justice consists in the will of the stronger (i.e., that "might makes right") to which we owe such cancerous developments as espionage in high places in the government — and the attempt to "pack" the Supreme Court in 1937. For a discussion of the confused thinking which occasioned these ominous symptoms — and which also explains President Roosevelt's sabotage of the emergency board procedure of the Railway Labor Act in 1941 — the reader may refer with profit to a thoughtful article entitled "Ethics by Ear," by C. P. Ives, in the May 7 issue of The Freeman magazine. We do not believe that Mr. Kennedy himself would persist in the views which he expressed in his letter to the Chronicle, if he would take the trouble to look around and see into what dangerous company he has inadvertently fallen.

"PART TRUTH, PART FICTION"

The mercurial over-the-road trucking industry is on the loose in the public press. This time its bid for public favor takes the form of full-page newspaper ads designed to prove that, since railroads are the primary target of enemy action — while the trucking industry is not — trucks ought to be given priority in materials because they are "the No. 1 carrier offering the greatest protection in time of national emergency." Of these ads this paper can only repeat what an old poet said about the female sex: ". . . part truth, part fiction, some thought, much whim, and all a contradiction."

The long-haul truck operators, like the Devil, turn the truth to their own purposes. Last month, national advertising of the American Railway Car Institute aptly characterized the railroads as "the primary target." This truth the trucking industry repeats — not for the purpose of indicating the relative importance of the railroads — but to attempt to prove that the railroads would be "bombed out of existence." Since the trucks, they claim, won't be so discommoded — presumably because they are *not* a primary target — therefore, they ought to be accorded materials as "the No. 1 carrier."

If this is confusing, just keep on reading. In the same "message," the trucking industry, which concedes primacy as a target to the railroads, claims, nevertheless, at the same time to have "moved more tonnage in 1950 than all other forms of transportation combined."

This curiously illogical sausage-link of claims got quick and deadly rebuttal by President Faricy of the A.A.R. in several recent talks—notably at the Chicago Executives' Club on May 4:

"In the event of enemy action here in the United States which might result in other channels of transportation becoming choked with individually operated and largely uncontrollable traffic, trains will continue to move under the disciplined control of railroad operating organizations. Tracks may be knocked out for a time but, as was amply demonstrated in Great Britain during the recent war, it is exceedingly difficult to block movement by rail completely, and for any considerable length of time, because of the flexible network of main and secondary lines and the alternate routes available between most centers. It was this same quality, as well as sturdy resilience under shock, which enabled the railroads of Germany to withstand so long the utmost that could be done in saturation bombing, with railroads as prime targets, and to be among the last of the facilities of resistance to be put out of action.

"There is no essential difference between bomb damage and damage from floods, washouts, or landslides. Railroads are accustomed to meeting interruptions of that sort with organized energy. They are experienced in finding ways to keep the traffic moving, either by prompt repair of the damaged line or over alternative routes. The use of these alternative routes in emergency is organized, and is always available, with the necessary understandings and agreements already executed and in effect."

On the transparent distortion of fact in the claim that trucks haul the most tonnage, Mr. Faricy observed:

"If we are talking about comparable things, which are intercity railroads and intercity trucks, the figures of the Interstate Commerce Commission for the last year for which they are available—1949—show that the railroads handled nearly six times as much intercity freight traffic, in terms of ton-miles, as did all intercity trucks, including private carriers as well as contract and common carriers. Of course, if one is going to include in the truck figures the eight million farm and local delivery trucks which are not competitive with the railroads, but are supplementary to them, and if one is going to ignore the factor of distance and treat a ton of freight hauled three blocks within the city of Chicago the same as a ton of freight hauled 3,000 miles from San Francisco to New York, then by such distortions you can prove almost anything."

In newspaper advertising, the American Railway Car Institute is helping Mr. Faricy to clear the record. For that matter, if anybody wants to know what form of transportation is the most helpless when confronted with tough going, just let them take a look at contrasting photos of a last winter's snow storm in the current issue of the Chicago & North Western's "Newsliner." One is an air view showing a hundred-odd long-distance trucks scattered all over a Midwest town waiting for "somebody" to come and plow out the roads. The other shows a railroad snowplow on the job on the paralleling railroad line.

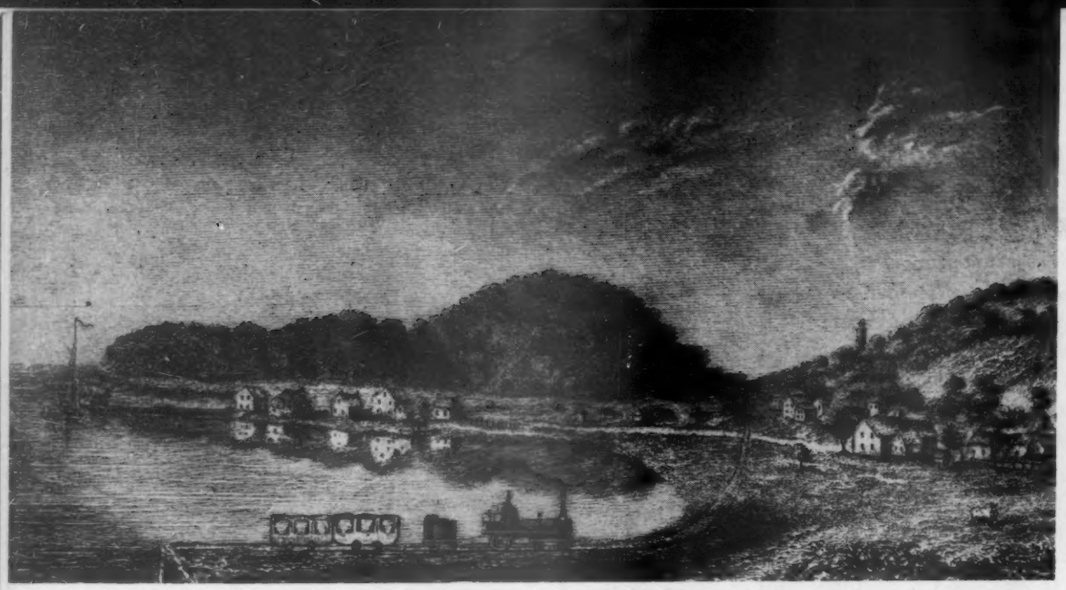
A CENTURY OF ERIE

Many if not most railroads in recent years have become acutely mindful of their history — and, in this issue, *Railway Age* reminds the industry what the Erie has to offer in this department, which is a lot.

Taken immoderately and undiluted, company history could be a harmful narcotic — inducing nostalgic daydreaming for the "good old days," which probably never existed anyhow. On the other hand, getting to know what was done right and what was done wrong in the past is one of the best ways of learning how to do what is right in the present. Past errors, if we know nothing of them, will be endlessly repeated — while nothing can give so much assurance in pursuing the right course today as awareness that a parallel course was successfully followed in the past.

Above all else, history teaches that most useful of virtues—humility. No matter how clever or resourceful or energetic we think we are now, can we be sure that some of the old-timers would not be more than a match for us? A study of the record will usually provide an affirmative answer. History, in short, is our *foundation*. If we try to build ambitiously upon that foundation without knowing much about it — where it is strong and where it is weak — we may come to grief. The Erie's past offers an interesting variety of experience, from a knowledge of which any railroad man may profit. The youthful modernity of the property and its organization today suggest that the personnel in charge have learned from the past what to avoid and what to emulate.

Incidentally, doesn't there seem to be some connection between the intensity of a railroad's interest in its history and the zeal with which it is currently attacking the problems of the present?



Pictures with this article from the collection of Walter A. Lucas

Artist's conception of the New York & Erie's original eastern terminus at Piermont, N. Y., about 1841, the year in which the railroad first began regular service between Piermont and Goshen

One Hundred Years of ERIE

May 14-15 mark centennial of inaugural run over New York & Erie—then the longest railroad in America—from Piermont, N. Y., to Dunkirk, 446 miles

Millard Fillmore was President of the United States. "Dan'l" Webster was Secretary of State. And Dan'l, they say, rode in a rocking chair securely lashed to a flat car —"the better to see the scenery"—on that great day of May 14, 1851, when the New York & Erie started its inaugural trains out of Piermont-on-Hudson for Dunkirk, 446 miles west on Lake Erie, over what was then the longest, and also the widest, continuous stretch of railroad under single private ownership anywhere in the world.

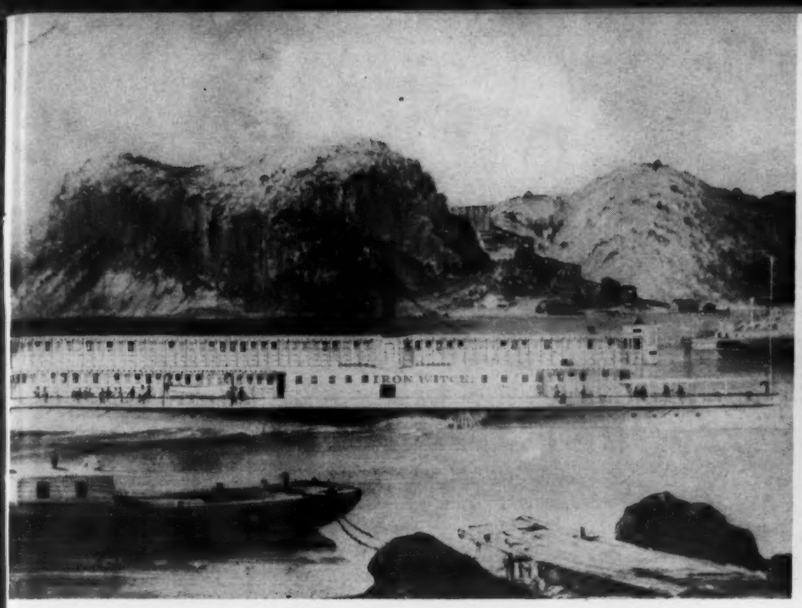
Operation of those two inaugural trains, and the celebrating and merrymaking that marked their passage through each little community on the line, were the result of two decades of backbreaking, heartbreaking toil and struggle. It was to be followed by another 10 decades —many of them equally heartbreaking to those who put the railroad's interests before their own—until this 14th and 15th of May, 1951, when the modern Erie pays tribute to its progenitor.

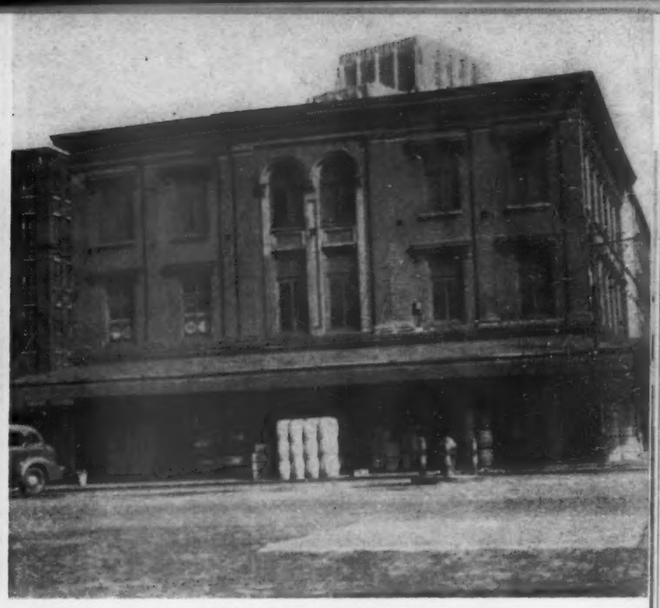
In the Beginning

The story really began way back in 1779, when Colonial Generals Clinton and Sullivan visualized the importance of a highway through the counties of New York state's "Southern Tier." But for half a century thereafter the project lay dormant, until the opening in 1825 of the Erie Canal roused the people of the Southern Tier to the necessity of some similar channel of commerce and communication through their part of the state. Even then, they did little but talk until, in 1829, William C. Redfield, of New York City—who may be justly called the "Father of Erie"—published a pamphlet in which he outlined a plan for a railroad, not merely across southern New York state, but on through Pennsylvania, Ohio, Indiana and Illinois, to a crossing of the Mississippi river. Redfield, fittingly enough, lived long enough to reap the unique satisfaction of being guest of honor at the 1854 opening by the Chicago & Rock Island of a bridge across the Mississippi at the exact spot he had indicated.

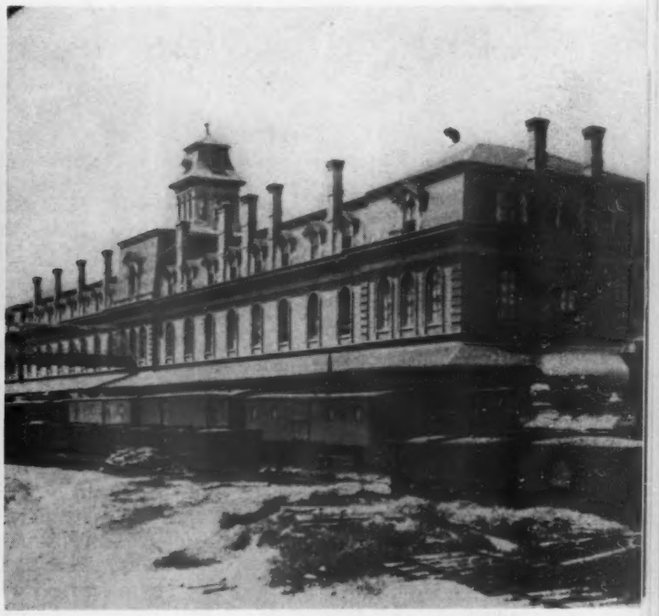
Interest aroused by the Redfield pamphlet, and by reports of the beginning, or the opening, of such roads as the Mohawk & Hudson, the Baltimore & Ohio and the South Carolina, led to a series of "conventions" throughout 1831 at such New York points as Monticello, Jamestown, Angelica, Binghamton and Owego under the leadership of such men as Richard P. Marvin, Philip Church and Eleazar Lord. As a result of those meetings, and of the one at Owego on December 20-21 in particular, application for a charter was presented to the 1832 session of the New York legislature; after some opposition from the so-called "canal counties" to the north, it was approved on April 19, 1832, and signed by Governor Enos Throop five days later.

The new company was authorized to build its line from a point at or near the city of New York to "some eligible point" on Lake Erie; but it was restrained from making any connection with railroads in New Jersey or in Pennsylvania without special permission of the legis-





Left—In the early years of the New York & Erie's operation, passengers traveled between New York City and the railhead at Piermont, 24 miles, on river steamers like the "Iron Witch." First-class passengers, however, stopped using the boats when a through rail line was opened from Suffern to Jersey City (1848), and the river service was finally abandoned following the 1861 opening of the N. Y. & E.'s own Jersey City-New York ferry. Right—This building, which is still in use, housed the N. Y. & E.'s headquarters in 1851. It is located on West street, between Duane and Reade streets, in lower New York, opposite the Erie's New York ferry terminal and downtown freight piers



Left—The Starrucca viaduct, 1,200 feet long and 110 feet high, was built in 1848 by 800 men at a cost of $320,000. The 17-arch bluestone structure, originally considered capable of supporting only one 6-ft. track, now carries double standard-gage tracks used by the heaviest diesel-powered freight and passenger trains. Right—The Orange Hotel, at Turners (now Harriman), N. Y., was a famous eating place for passengers of the early Erie. Jim Fisk, says Edward Hungerford in his 1946 history of the railroad, "Men of Erie," gave it "frequent patronage"

As this 1860 timetable shows, the Piermont terminus was used for freight and milk long after most passengers had indicated their preference for the all-rail route from Suffern to Jersey City

NEW YORK AND ERIE RAILROAD TIME TABLE.

No. 6. **PIERMONT BRANCH.** Second Editio

For the government and information of Employes only, and not intended for the Public.

TAKES EFFECT SUNDAY, JULY 1, 1860.

EASTWARD TRAINS.

SECOND CLASS.			FIRST CLASS.			Distance from Dunkirk.	NAMES OF STATIONS AND Passing Places.	Distance from New York.	WESTWARD TRAINS. FIRST CLASS.			SECOND CLASS.	
22 Through Freight.	20 Way Freight.	18 Fast Freight.	Sunday, Milk.	Milk.	Rockland County.				Rockland County.	North N. J. Way.	Accom'da.	15 Fast Freight.	17 Way Freight.
------	------	------	------	------	------	469¼	New York, Dep.	--	------	------	------	6.00PM	6.00PM
11.35PM	8.10PM	12.40PM	------	------	------	445¼	Ar. Pier, Dep.	24	------	------	------	7.00AM	9.00AM
*11.31 "	8.05 "	*12.35 "	------	------	Ar. 7.40AM	444¼	" Piermont, "	25	5.05PM	------	------	*7.06 "	9.06 "
------	------	------	Ar10.05PM	Ar. 8.15PM	Ar. 7.30 "	443¼	" Upper Piermont, "	26	5.20 "	8.35PM	5.30AM	------	------
*11.17 "	7.45 "	*12.16PM	9.56 "	8.07 "	7.23 "	441	" Blauvelt'ville, "	28½	5.30 "	8.48 "	5.41 "	*7.30 "	9.26 "
*11.00 "	7.10 "	*11.55AM	9.41 "	7.47 "	7.11 "	436½	" Nanuet, "	32½	5.50 "	9.06 "	5.56 "	*8.00 "	10.09 "
*10.51 "	6.45 "	*11.42 "	9.26 "	7.32 "	7.01 "	434¼	" Spring Valley, "	35¼	6.03 "	9.17 "	6.06 "	*8.16 "	10.14 "
*10.45 "	6.15 "	*11.35 "	9.18 "	7.24 "	6.56 "	433	" Monsey, "	36¼	6.10 "	9.28 "	6.11 "	8.35 "	10.21 "
*10.15 "	*5.48 "	*11.05 "	*9.09 "	*7.10 "	*6.47 "	430¼	" 15 *Mile Turnout*, "	39	*6.15 "	*9.36 "	*6.20 "	*8.47 "	*10.35 "
10.00PM	5.30PM	10.50AM	9.00PM	7.00PM	6.40AM	427½	Dep. Suffern, Arr.	42	6.21 "	9.45 "	6.30 "	9.00 "	10.50 "

Note.—Conductors and Engineers MUST constantly keep themselves posted up in regard to the General Instructions of August 1, and to all General or other Orders, altering or repealing any of them issued since, without expecting to find those considered most important, repeated on the Time Tables.

¶ STOP ON SIGNAL.

☞ Nos. 15, 18, 19 and 22 run every day. The Sunday Milk will run on Sundays only, and the Accommodation Train will run only on Mondays. Track on Piermont Branch, is at Blauvelt'ville. ☞ The Western terminus of

Left—The Erie's original 6-ft. gage shows up clearly in this view of a wood and water station at Southfields, N. Y. It is interesting to note the difference between this early track and that used by the Erie today, shown on page 82. Right—Noon train for New York, with Erie locomotive No. 144, at the then new Market Street station, Paterson, N. J., in 1867

The year 1951 marks the 90th anniversary of the Erie's operation of ferryboats across the Hudson river. "Susquehanna" is of 1866 vintage; the picture of the "Passaic" dates from 1919. The building shown in the latter picture is still standing, but the boats have long since been replaced by new and larger propeller-driven vessels

lature, and was forbidden to organize formally until its prescribed capital of $10,000,000 should be fully subscribed and 5 per cent of that amount actually paid in. This charter provision postponed until August 9, 1833, formal organization of the New York & Erie Railroad Company and election as its first president of Eleazar Lord; before then, the 1833 legislature had reduced the stock subscription requirement to $1,000,000, of which only $100,000 had to be paid.

Growing Pains

There followed, for the borning railroad, long years of growing pains—controversy over the route it was to follow, struggles to raise money for construction and equipment, appeals for state aid, efforts to break the charter provisions restricting its operations to New York state. Ground was "broken" way out at Deposit, N.Y., on November 7, 1835, but there were no locomotives until December 1840; and it was not until June 30, 1841, that the N.Y. & E. carried its first trainload of passengers—over the 17 miles from Piermont to Ramapo (now Suffern), a long way from Deposit. It was three months after that before the first regular service was established, between Piermont and Goshen.

Meantime, presidents came and went with far greater regularity than trains. Eleazar Lord, resigning in 1835, was followed by James Gore King, but returned to the presidency four years later when Mr. King himself resigned. Retiring again in May 1841, Mr. Lord was followed by James Bowen (1841-1842); by William Maxwell (1842-1843); and by Horatio Allen, of locomotive building fame (1843-1844). Mr. Lord returned for a brief third administration for a few months in 1844 and 1845, when he was succeeded by Benjamin Loder.

It was Mr. Lord, incidentally, who was primarily responsible for locating the road's first eastern terminus at Piermont-on-Hudson; who favored the plan—never carried out to any appreciable extent—of building the railroad on stone or wooden piles; and who, most importantly, brought about adoption of the Erie's original 6-ft. track gage—a gage which cost the road plenty of money when it finally went to standard gage a third of a century later, but which has since brought it both fame and traffic as a carrier of oversize shipments because of its heritage of greater-than-standard clearance limits.

And it was Mr. Bowen—or at least his administration—who made the grievous mistake of summarily rejecting overtures from the struggling little New York & Harlem—not yet under Vanderbilt control—for a connection across the Hudson at Piermont—a connection which

would have brought the Erie into the heart of Manhattan, and would have changed the history of two great railroads, a city, a state, and perhaps a nation.

Mr. Loder Sees It Through

But it was Benjamin Loder, who, sparing himself no hardship, and at the eventual cost of his own health, almost literally carried the Erie through to Dunkirk. It had been completed to Goshen and Middletown before he took office—but Middletown was only some 50-odd miles from Piermont. Dunkirk was still nearly 400 miles away, with the roughest sort of country between, and time allowed for completion of the road was getting perilously short. Yet under Mr. Loder's direction the rails were pushed through to Otisville in October 1846; to Port Jervis in December 1847; to Binghamton in December 1848; to Owego in June 1849 and to Elmira in October; to Hornellsville (now Hornell) in September 1850, and finally to Dunkirk in April 1851.

"The completion of the railroad," says Edward Harold Mott in his "Story of Erie," "was at that time the most important event in the history of railroad building . . . . The present stupendous Pennsylvania Railroad was then but a local line . . . from Philadelphia to Hollidaysburg. . . . New York was then connected with Albany, Buffalo and Rochester merely by a chain of ramshackle local roads of different gages. . . . The Baltimore & Ohio had as yet no important western connection." Little wonder, then, that President Fillmore and all his cabinet, senators, congressmen, governors—anyone who could wangle an invitation—was eager to ride one of the two special trains that made the two-day trip from Piermont to Dunkirk—with a banquet and an overnight stop at Elmira, a mammoth barbecue at Dunkirk, and equally joyous if slightly less magnificent festivities wherever else the trains could be persuaded to stop.

With the completion of its inaugural run, the New York & Erie had accomplished its objective of connecting New York and the Great Lakes; as might be expected, its traffic, revenues and earnings showed a general, if somewhat erratic, upward trend, particularly during the period of the Civil War. But its corporate history was comparatively uneventful, save for a receivership which began on August 16, 1859, and ended April 30, 1861, from which it emerged as the Erie Railway Company. Benjamin Loder, broken in health by his efforts to complete the road, retired from the presidency in 1853, to be followed by Homer Ramsdell (1853-1857); Charles Moran (1857-1859); Samuel Marsh and Nathaniel Marsh, receiver (1859-1864); Robert H. Berdell (1864-1867), and John S. Eldridge (1867-1868).

From Loder to Thomas

But one event of those years—the election to the board of directors in 1853 of Daniel Drew—was to have loud repercussions, both in and out of Erie. If the able and honest Nathaniel Marsh had not died an untimely death, Drew and his intermittent associates, Jay Gould and Jim Fisk, Jr., might have transferred their subsequent stock market machinations elsewhere, and the history of Erie might have been far different. The story of those machinations has been too well and fully told by Mott and by Charles Francis Adams, Jr., in his "Chapters of Erie" to need repetition here. But in fairness to the railroad, if not to the men, it ought to be pointed out that even Adams admitted that Drew was upon occasion "a good friend" to the Erie; and that the administration of Gould as its president (1868-1872) was a period of considerable physical rehabilitation and of broad vision which ultimately led to the Erie's expansion from an essentially local line to a great modern trunk line.

The administrations of John A. Dix, who followed Gould in the presidency for a few brief months in 1872; of Peter H. Watson (1872-1874); of Hugh Judge Jewett (1874-1884); and of John King and J. G. McCullough, receiver (1884-1895), were devoted in large part to efforts to overcome the legacy of debt left by Drew, Gould and Fisk, and to contests with the redoubtable James McHenry over control of the Atlantic & Great Western, which the Erie needed as its western connection. There was a period of receivership from May 1875 to April 1878, from which the company emerged as the New York, Lake Erie & Western; and another receivership lasting from July 1893 to November 1895, which resulted in organization of the present Erie Railroad Company.

But if the last three decades of the century were troubled ones for the Erie, it was at least in the hands of men who, like Benjamin Loder and the Marshes, were working for it and not for themselves. To quote again from Mott: "Advantages that the Erie Company enjoys today are due, in a large degree, to the alertness, determination and rare foresight that characterized the men then in Erie, who found themselves pitted against adversaries whose strength and equipment would have discouraged and disheartened lesser men." That appears to be no less true today than when it was written some 50 years ago.

The Modern Erie Begins

With the Erie's release from receivership in 1895, Eben B. Thomas became its president—and with his election the modern Erie, the Erie of today, may truly be said to have come into being. He himself served as its president only until May 1901—less than seven years—but he left it, mileage-wise, substantially what it is today. The period of extensive development, begun under

Palace Drawing Room and Sleeping Coach Arrangement

EASTWARD.

No. 8.—Sleeping Coaches from Detroit to Hornellsville. Drawing Room Coaches from Susp'n Bridge, Buffalo and Hornellsville to New York.

No. 12.—Sleeping Coaches from Suspension Bridge, Rochester and Buffalo to New York. Connect at Elmira with through Sleeping Coaches for Philadelphia, via Lehigh Valley R. R.

No. 4.—Sleeping Coaches from Suspension Bridge and Buffalo to New York.

(Interior View of Drawing Room Coach.)

PASSENGERS DESIRING TO STOP OVER

At any of the Intermediate Stations, can do so by notifying the Conductor, who will furnish them Stop-over Check.

This "drawing room coach," illustrated in an Erie timetable of 1875, was doubtless the last word in travel luxury three-quarters of a century ago

The Erie's "New York and Chicago Express" in 1897

Eleazar Lord, continued so vigorously under Benjamin Loder, dreamed of by Jay Gould, and fought for by Hugh Judge Jewett, ended, for all practical purposes, under Eben Thomas.

Under him, too, began the period of intensive development that has since been carried forward unceasingly by Frederick D. Underwood (1901-1927); John J. Bernet (1927-1929); Charles E. Denney (1929-1939); Robert E. Woodruff (1939-1949); and by the present president, Paul W. Johnston.

There was, to be sure, a short period of depression-induced bankruptcy, lasting from January 1938 to December 1941, with Mr. Denney serving first as joint trustee with John A. Hadden, and Mr. Woodruff becoming trustee and chief executive officer in 1939. There was, likewise, a brief period of Van Sweringen control, during which the Erie seemed likely to become part of a larger railroad system that would have dwarfed even the dreams of Jay Gould. But by and large, the history of the Erie's second half-century has been the story of development into a thoroughly modern railroad—second to none in track structure, motive power, operating efficiency or public service—of the system created during its first half-century.

If that history appears less colorful, it is so only in the sense that development of new territory may be less exciting than its discovery or exploration, but never less important.

How a Railroad Grew

The 2,245-mile Erie system of 1951, which its twentieth century leaders have developed so intensively, is a far cry from the original 446-mile New York & Erie which Dan'l Webster rode on a flat car in 1851. Its five-fold expansion began with the opening early in 1850, even before the main line to Dunkirk was completed, of the 18.7-mile branch to Newburgh, N.Y., from Greycourt. It continued with the leasing, in 1852, of the Paterson & Hudson River, the Paterson & Ramapo and the Union, which, together, extended from Jersey City, N.J., to a connection with the Erie at Suffern, and now constitute the Erie's main line between Suffern and Jersey City.

At that time the P. & H.R. reached the banks of the Hudson over what is now the Pennsylvania line into Jersey City, but in 1855 President Ramsdell, foreseeing "the necessity of more room at the eastern end of the road for greater facility and economy in handling the road's business," quietly purchased the land still occupied by the Erie's present Jersey City terminals. In the following year, work was begun on the then tremendous task of boring through Bergen hill an 8,000-foot double-track tunnel; its completion, and the establishment of ferry service to New York, both early in 1861, marked the final end of Piermont as the road's eastern terminus and the end of the river steamboat service which had formerly carried both passengers and freight between Piermont and New York—an end which had, of course, been clearly foreshadowed years before, as soon as there was a direct rail line from Suffern into Jersey City.

Between 1852 and 1898 the Erie likewise acquired by outright ownership, stock control, lease or operating agreement, the various railroads which now constitute its network of lines in northern New Jersey, on which are handled the bulk of its heavy daily commuter traffic. These included the Paterson, Newark & New York and the Newark & Hudson (now, together, the Newark branch); the Bergen County, between Rutherford and Ridgewood; the Northern of New Jersey, to Nyack; the New York & Greenwood Lake, to Wanaque-Midvale; and the New Jersey & New York, still technically under separate operation, to Spring Valley and Thiells. In 1899 the Erie also acquired control of the New York, Susquehanna & Western, but that road has since been returned to independent operation.

But physical expansion of the Erie throughout the second half of the nineteenth century was by no means confined to the eastern end of its system. In the same year (1852) in which it obtained direct access to Jersey City it also obtained a direct connection to Buffalo from Hornell; just as the Jersey City connection marked the beginning of Piermont's decline as the Erie's eastern terminus, so the Buffalo line quickly made that city more important than Dunkirk as its western terminus. By 1865 it was operating a second line to Buffalo, which extended from Painted Post to Attica, with a branch from Avon to Rochester; and had begun its penetration of the Pennsylvania anthracite coal fields over a branch from Lackawaxen to Hawley.

Under Jay Gould, a few years later, the Erie leased the Jefferson Railroad from Hawley to Honesdale, and arranged to build another coalfield branch, from Susque-

Stations are different, too. The one on the left was in use at Hawthorne, N. J., from 1868 to 1950; at the right is its attractive modern successor, opened in the latter year

hanna to Carbondale. Between the presidencies of Gould and of Thomas it extended its penetration of Pennsylvania; acquired a line from Buffalo south to Jamestown; and consolidated its position in the Buffalo area with lines to Lockport and Suspension Bridge. The so-called Graham Cut-Off, a low-grade freight line around and through the Shawangunk Mountains in eastern New York state, was part of the intensive development and physical regeneration which marked the administration of Fred Underwood.

To Chicago at Last

Inevitably, however, the Erie's greatest field of expansion lay to the west of its original territory. As early as 1850 agitation had begun in Jamestown, N.Y., Meadville, Pa., and Franklin, Ohio, for construction of a railroad or series of railroads to connect with the then still building New York & Erie. The eventual result—passing over the legal and financial obstacles which intervened—was the construction of the Atlantic & Great Western, extending from a connection with the Erie at Salamanca, N.Y., to Dayton, Ohio, with branches to Cleveland and to the newly developing oil fields of western Pennsylvania, and with trackage rights into Cincinnati and connections to St. Louis. A lease of this line from James McHenry, of London—then virtually its sole owner—was Jay Gould's first move in carrying out his plans for expansion of the Erie.

"The complications" growing out of this lease, said Mott, "assailed the peace and drained the treasury of the company for many years"—but without it the Erie could never have become the trunk line it is today. Its western connection was not, to be sure, fully secured for many years thereafter. The original Gould lease—twice revised—was repudiated by Erie President Jewett; the A. & G.W. was subsequently reorganized as the New York, Pennsylvania & Ohio (Nypano); was re-leased by the Erie in 1883; and was finally purchased outright at a foreclosure sale and incorporated with the Erie on February 24, 1896.

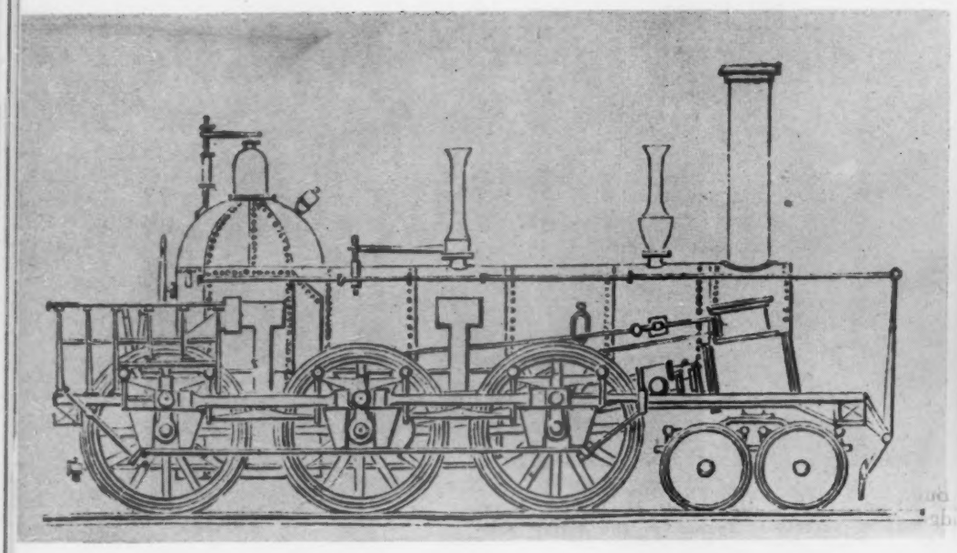
Meantime, to secure its entrance into Chicago, the Erie, during President Jewett's administration, had advanced money for construction of the Chicago & Atlantic from a connection with the A. & G.W at Marion, Ohio, to Chicago—or, more correctly, to Hammond, Ind., from which point Erie trains still use Chicago & Western Indiana tracks. The C. & A., reorganized in 1887 as the Chicago & Erie, was purchased in the same year by the Erie, assuring for all time the latter's access to Chicago and its trunk-line status.

History Is Many Things

All the history of Erie, however, is not contained in corporate records nor in acquisitions of added mileage. There were, for instance, some of the first sleeping cars ever used on any railroad—though they were a far cry from the streamline roomette cars operated today in the "Erie Limited" or the "Lake Cities." There was the building by James P. Kirkwood of the famous, still used, Starrucca viaduct—one of the world's great railroad bridges.

There was the thought of Thomas Selleck, first agent at Chester, that fresh milk might be transported by rail, which opened up to the Erie and to many other railroads a lucrative source of traffic. There was the famous 300-lb. conductor, "Poppy" Ayres, who conceived the idea of a signal cord from cars to locomotive—and who backed up his convictions on the value of his invention with a pair of ham-like fists when his engineer disagreed. And, by no means least, there was the road's early great superintendent, Charles Minot, who, by first using the telegraph to control trains—in 1851—established a system of operation which dominated American railroading for three-quarters of a century. The centennial of that event will be appropriately celebrated later this year.

All the events here recorded are, only, the highest spots in the Erie's long and colorful history. But they indicate why Erie men of today are, and rightly may be, proud of that history. Dark pages of the past have been erased by the energy and the integrity of recent—and present—men of Erie; the biggest clouds on their horizon, as their railroad enters its second century of transportation service, are the clouds which beset their entire industry—subsidized competition, governmental indifference, short-sighted demands from the leaders of otherwise capable and loyal employees. Whether the Erie—or any other railroad—can survive in private ownership for a second century under the constant threat of those clouds is something the future alone can determine. But as the Erie begins that second century it seems sure that if any railroads do so survive, the Erie will be one of them.



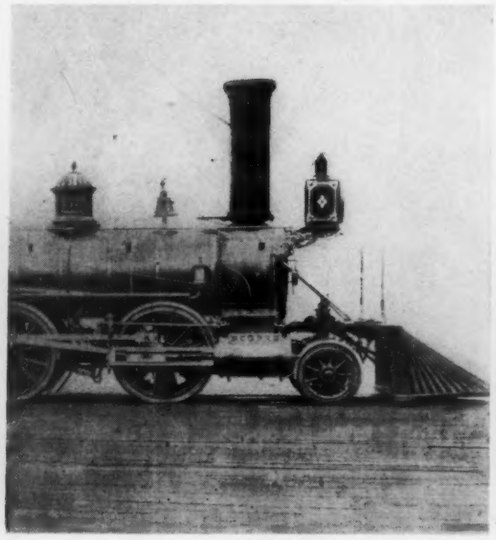
Left—This locomotive, built by Rogers, Ketchum and Grosvenor in June 1848, weighed 58,000 lb., with 42,300 lb. on the drivers. Center—An anthracite burning Mogul built by Rogers Locomotive Works in 1866. Weight on drivers 72,-

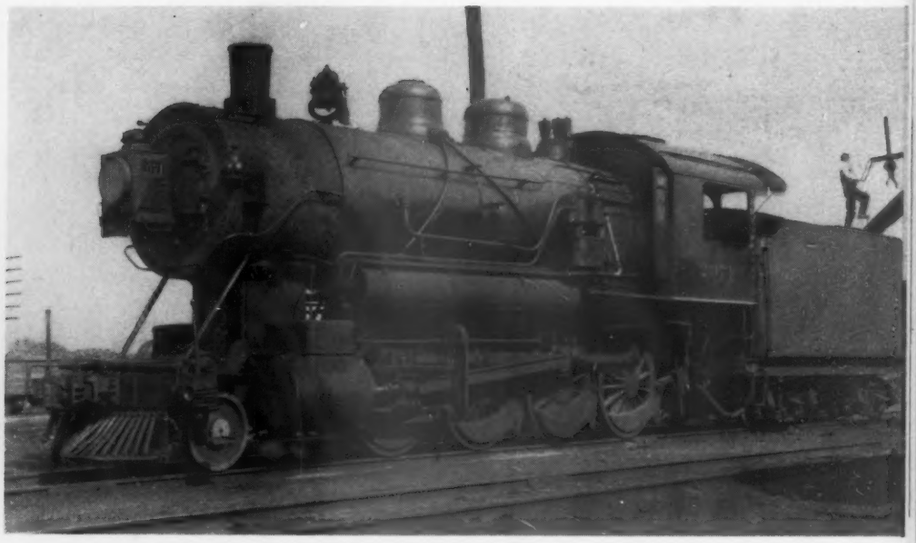
Left—These locomotives with 327,000 lb. on drivers and a total of 407,000 lb. were first built by Baldwin in 1915. Center—The last type of steam power, built by American, Baldwin and Lima, during 1927, 1928, and 1929. Weight

What a Century Did to Erie Locomotives and Cars

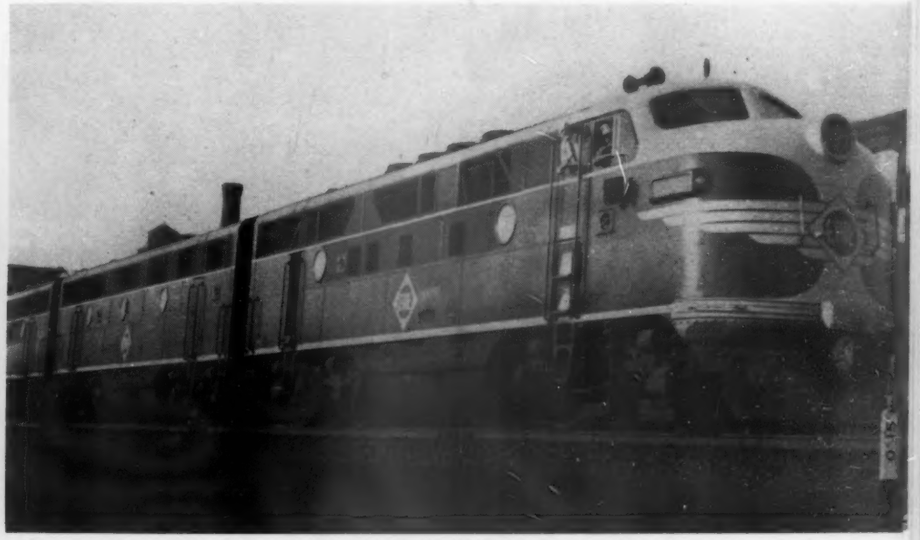
From 5,000 lb. to over 200,000 lb. tractive force—More comfort in passenger cars a continuing objective from start

The history of the Erie encompasses the entire history of the development of railway motive power and rolling stock in America. When the Erie was projected the building of steam locomotives had scarcely been carried on for a decade and the type of locomotive which long





156 lb.; total engine weight 87,444 lb. Right—Built by Baldwin in 1910, 260 of this class were the principal freight locomotives prior to advent of the trailing truck. Weight on drivers 176,400 lb.; total engine weight 200,700 lb.



on drivers 274,000 to 284,000 lb.; engine weight, 443,000 to 461,000 lb. Right—Typical of both freight and passenger diesel road locomotives built by the Electro-Motive Division of General Motors Corporation

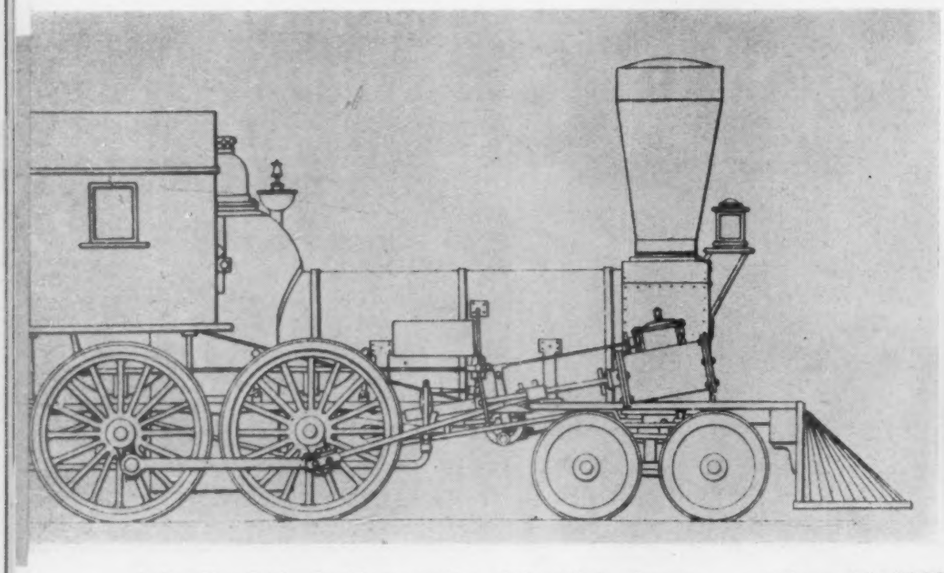
held sway in passenger service and was also extensively used in freight service—the 4-4-0—was just evolving.

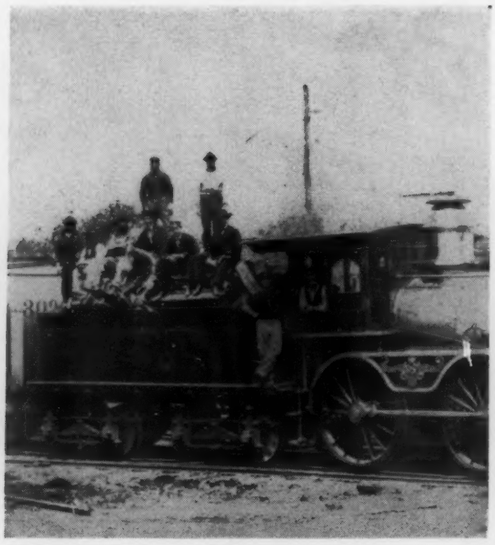
The first Erie order for locomotives was placed in May 1840, and went to the builder whose price was not only the lowest, but who was willing to take the largest block of stock in the new railroad in part payment. This was William Norris, of Philadelphia, who delivered three locomotives in December 1840, at a price of $8,000 each, of which $3,000 was paid in stock. These locomotives weighed approximately 32,000 lb., 22,000 of which was on the drivers. Two more were delivered the next year.

The first freight cars built for the railroad were delivered in September 1840. There were six of them. By the end of that year orders had been placed for a total of 20 freight cars, two "platform cars" for baggage, and eight passenger cars. Like the locomotives, these cars were made by the builders willing to take the biggest gamble on the future of the new railroad.

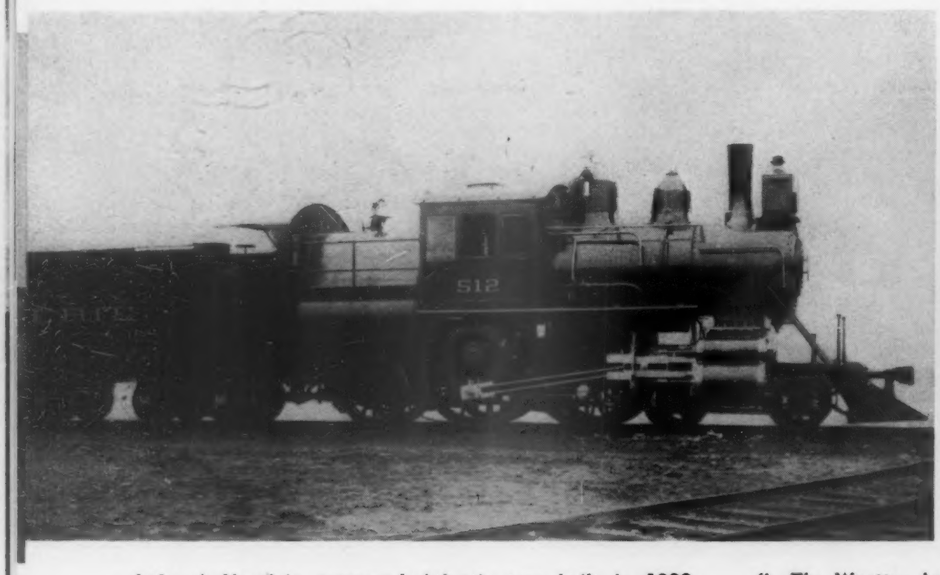
The cars and locomotives for which orders were placed in 1840 involved an obligation aggregating something over $50,000 at a time when not a mile of rail had yet been laid. They were delivered to the railroad at Piermont, N. Y., by way of the Hudson river, and were used in building the road west from that point.

To trace the history of the locomotives bought by the Erie during the succeeding 111 years is to trace the evolution of the steam locomotive in America, and then





Left—The Erie's fourth locomotive, delivered in January 1841, by William Norris. Weight on drivers 21,100 lb.; total engine weight 30,700 lb. The cab was added later. Center—No. 216 built by the New Jersey Locomotive & Machine

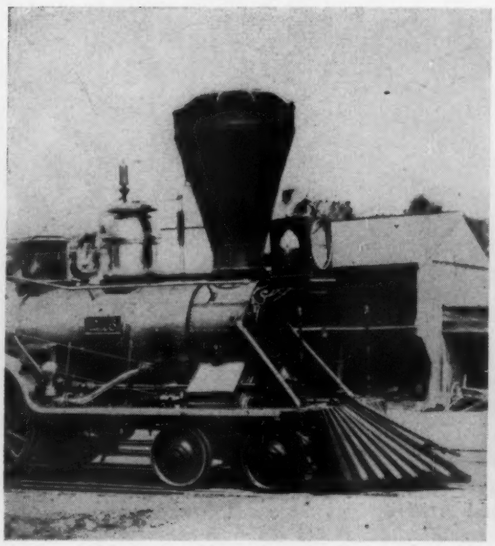


Left—A Vauclain compound Atlantic type built in 1899. Weight on drivers 84,290 lb.; total engine weight 151,000 lb. The Wootten boiler first appeared on the Erie in 1886. Center—The last steam passenger locomotives built for the

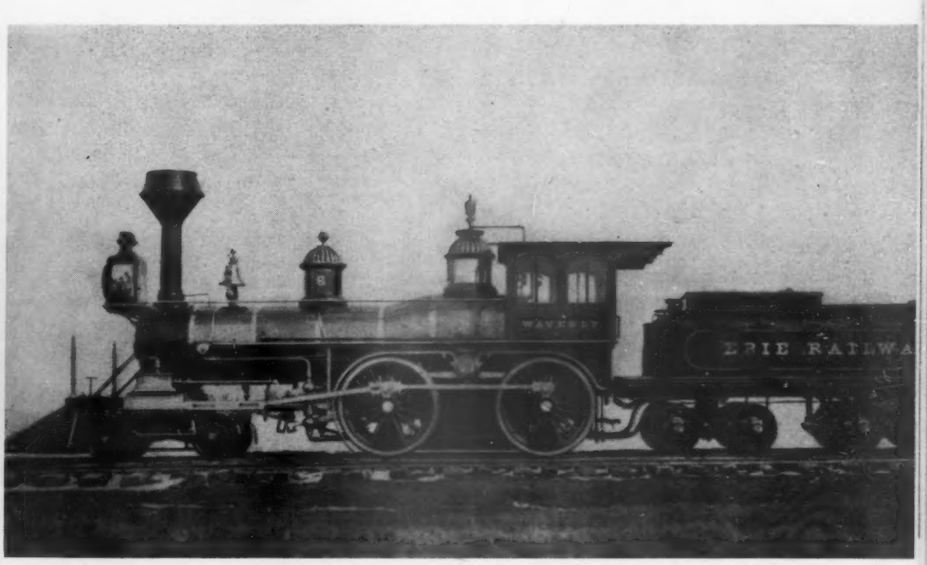
to see it being rapidly supplanted by the diesel. The contrast between those early locomotives and the diesels of today is amazing both as to capacity and comfort of the crews. The Erie's locomotives of 1840 developed four or five thousand pounds tractive force and there were no cabs until about 1848. The four-unit diesel locomotive of today develops a tractive force of upwards of 200,000 lb.; cabs are heated, and seats comfortable. One head brakeman, on a sunny spring day, described his job of riding the cab of a diesel-hauled freight train as "like being paid to take a vacation." It was no vacation to ride the deck of a cabless locomotive in all weathers and keep her hot with firewood.

By the end of 1851, the year of completion of the road to Dunkirk, N. Y., the road owned 123 locomotives, which had been furnished by eight builders. The Erie's wide track gage of 6 feet encouraged the building of many of its locomotives during the 1850's with inside connected cylinders. Some of these had outside frames and driving boxes; others, inside frames and driving boxes. By the end of 1855 there were 203 locomotives in service, of which 166 were inside connected. Designs continued to multiply and by 1870 the road owned locomotives of 85 different designs.

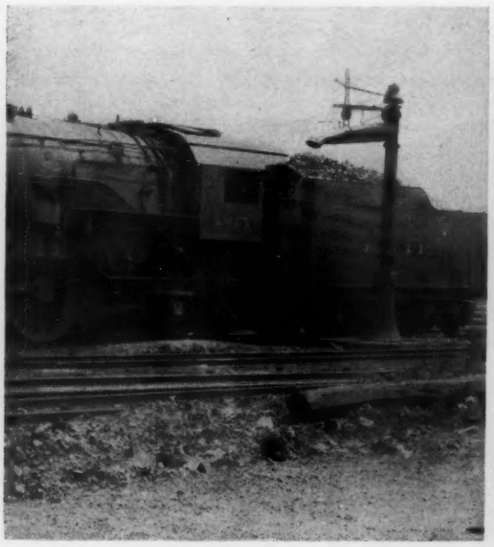
Until the early 1850's wood was with few exceptions the universal locomotive fuel. Then many experiments were started on American railroads in the use of bituminus coal. The Erie began its experiments in 1858 on



Co., 1853. Weight on drivers 41,300 lb.; total weight 65,000 lb. Right—The first standard gage locomotive on the Erie.



Built by Brooks Locomotive Works to burn coal in 1871. Weight on drivers 46,000 lb.; total weight 74,400 lb.



Erie by Baldwin in May 1919. These 20 were the only U.S.R.A. heavy Pacifics to be built. Weight on drivers 197,-

000 lb.; total engine weight 306,000 lb. Right—A single-unit 2,000-hp. diesel passenger locomotive built by Alco-G. E.

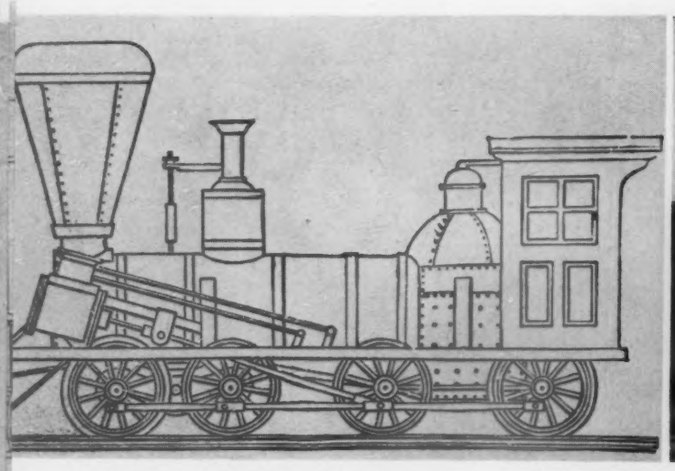
a limited scale. Then, in 1861, it rebuilt three locomotives to burn coal, each originally from a different builder. During the 1860's several builders furnished freight locomotives of the Mogul type to the Erie, designed to burn anthracite. By 1872 coal had entirely replaced wood as locomotive fuel. Then came the Wootten firebox, which greatly facilitated the burning of anthracite. This was first introduced on the Erie in 1886.

The first Vauclain compound locomotives on the Erie were 4-4-0 passenger engines with Wootten fireboxes.* These were built in 1897 and were followed early in 1899 by an order of 4-4-2 type Wootten-firebox locomotives.

During the second half of the Erie's century of development it has been the owner of three locomotive types which are worthy of comment. One of these was the "Matt H. Shay," the prototype of a class of three triplex pusher locomotives. These famous locomotives had frames, cylinders and driving wheels under the tender and two sets of cylinders and articulated driving wheels under the boiler. The rated tractive force was 160,000 lb. The weight on drivers was 761,600 lb. and the total weight of engine and tender was 853,050 lb. The demands for steam tended to outstrip the capacity of the boiler on the first locomotive, which was built in 1914.

*An Erie locomotive was rebuilt in 1868 or 1869 to incorporate a system of tandem compounding. Although said to have been mechanically successful, it was apparently of doubtful economic value and no further locomotives were so equipped.

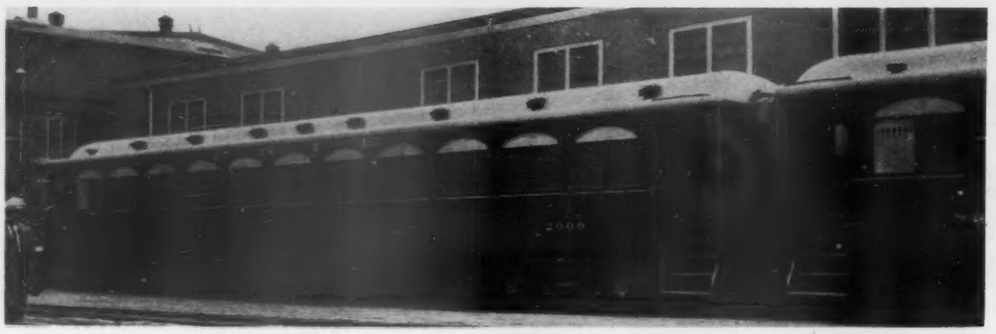
PUSHERS



Left—A Baldwin flexible-beam locomotive built as a pusher for the Erie in 1850. Weight 73,700 lb. Right—One of three triplex compound pusher locomotives built by Baldwin, the first in 1914; the others in 1916

PASSENGER CARS

Retired to the pasture. The body of a broad-gage passenger car photographed at Susquehanna, Pa., in 1932



The first all-steel suburban coach built to the Stillwell design in 1915. Total weight 95,200 lb.

A modern version of the Stillwell car, one panel longer than the original. Total weight 115,000 lb.

This locomotive had 90 sq. ft. of grate area, which was increased to 121.5 sq. ft. on the two locomotives of this type built in 1916.

No. 2509 was built by the American Locomotive Company to demonstrate the ideas of its designers as to the proportions, equipment and materials which should be employed in construction of future Pacific type locomotives. It weighed 269,000 lb. and developed 40,650 lb. tractive force. It had 4,056 sq. ft. of heating surface and a grate area of 59.6 sq. ft. During the more than 40 years since its advent in the summer of 1910 it has proved the basic soundness of its design and, when new, exerted a real influence on locomotive design. It was demonstrated and tested by the builder on the Erie, and was purchased by the road after the test period was over.

The latest and most powerful steam passenger locomotives acquired by the Erie were delivered in May 1919. These are United States Railroad Administration heavy Pacifics. They compare closely with the Pennsylvania K4 Pacifics in capacity and proportions. Their tractive force is 43,900 lb., and total weight, 316,450 lb. Total heating surface is 3,856 sq. ft. and grate area 70 sq. ft. These were the only locomotives built from this design.

Comes the Diesel

The history of dieselization on the Erie parallels closely what has taken place on many other railroads since the middle 1930's. With five diesel switching locomotives in service in 1936, the number has increased to over 100 at the end of 1950. Road locomotive units first went into service during 1944 and now there are more than 200 road units, including both freight and passenger. By the end of 1950 diesel-electric locomotives were responsible for 75.4 per cent of all Erie passenger train-miles and 61.8 per cent of freight train-miles.

Behind the Tender

The Erie played a leading part in the pioneer development of passenger-carrying cars to make traveling more comfortable. Within three years of the beginning of construction of the road two of its passenger cars were fitted with seats placed back to back, in which seat cushions could be used to make up berths. At the time they went into service the maximum journey was about three hours. No bedding was furnished, but passengers who cared to do so were able to recline.

These two cars were built with the side framing in diamond truss form and the windows were diamond-shaped to fit the spaces in the truss. The cars were considered too heavy for practical use and were soon set aside for emergency use only.

About the time these cars came on the road cars with the first swing-back seats were also received.

Air Conditioning Isn't New

The Erie was also one of the railroads on which Ruttan's system of heating and ventilating passenger cars was presumably tried. In a report to the British Board of Trade on the status of American railways during the mid 1850's, Captain Douglas Galton wrote: "Indeed, it is one of the most remarkable characteristics of the system how it combines roughness and expedition in the construction of the railway with convenience and refinement in the railway furniture and carriages, even greater in many respects than we have in this country. The average American is perhaps more particular about

indoor comfort even than the average Englishman. . .The railways humor these tastes and the carpets, the cushions, the chairs with backs that can be put either way, the room for moving about, the lights, and the warm-air pipes, put all except our first-class carriages to shame. The ingenious contrivance on the New York & Erie Railway . . . which conveys air down into a chamber where it is purified by spray . . . is a specimen of American railway indulgence to summer travelers."

Perhaps one of the most noteworthy rolling stock types of present Erie ownership are the steel suburban passenger cars designed by L. B. Stillwell, consulting electrical engineer. The design was originally made for the electrified, and now abandoned, New York, Westchester & Boston. Cars following this basic design were first acquired by the Erie in 1915 and, today, the road owns 289 cars of this design, the last of which were built in 1934. Cars of the original design, with seats for 86 passengers, were 70 ft. 4 in. long, overall, and weighed 95,200 lb. Later designed cars have been increased in length by one window panel, 5 ft. 5⅝ in. in length, and have had trucks of later and heavier types, although trucks of the original design are still in service. The exterior appearance of the later cars has been changed by covering the arched tops of the windows with a letter-board sheet. These cars have been remarkably free from corrosion.

Something of the flavor of the history of Erie motive power and rolling stock is inherent in the accompanying photographs selected from the collection of Walter A. Lucas.

FAMOUS "FIRSTS" CLAIMED BY THE ERIE

First sleeping cars—1843.

First railroad in the world over 400 miles in length—1851.

First trunk line to link the Atlantic seaboard with the Great Lakes—1851.

First railroad to use 6-foot gage track—broadest on the American continent in 1851.

First railroad to transport California fresh fruit to New York. First today in volume of western fruit and vegetables to eastern seaboard markets.

First railroad in the world to ship milk—1842.

First railroad to use rails made in America—1847.

First railroad to use air brakes—1869.

First railroad to use telegraph for directing train operations—1851.

First railroad to use bell-cord for signaling—1842.

First railroad to use ticket punch.

First in freight capacity with highest, widest clearance between Chicago and New York today.

First railroad to provide tank cars for movement of oil from wells—1861.

THE MODERN ERIE

Fundamentally, all railroads have much in common with each other. Yet each of them also has its own distinguishing characteristics. The article which follows describes, necessarily briefly, some features of the operations of the modern Erie, with emphasis on those features in which the Erie is virtually unique — as in its ability to handle extra-large shipments — or on those which — like harbor services and commuter traffic — it shares with only a limited number of other roads.

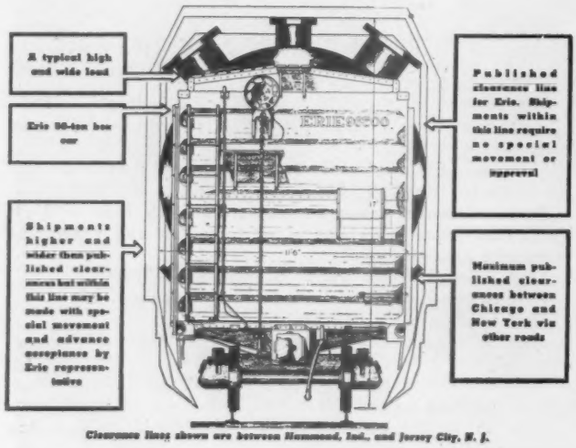
"High and Wide"

The Erie long has been unrivaled as a handler of high and wide shipments. As indicated in the drawing on this page, Erie clearances are the greatest of any of the eastern roads. Its history tells how this came about; the Erie's clearances are a result of a happy accident rather than of vision on the part of the road's early management. When the Erie originally was built its gage was set at 6 ft., and it was not until 1880 that the change to the present 4 ft. 8½ in. was adopted. But the wide clearances never were disturbed. Therefore, the "mistake" which forced the Erie to change gage in the latter part of the 19th century has made it possible for the modern Erie to handle business that none of its competitors can touch.

While "high and wide" shipments make up a good part of the Erie's business (and good business it is too, for practically all of it is high-rated traffic, and frequently involves a return movement of tons of blocking and bracing material), the fact that it can handle such shipments means that frequently the line gets above-tariff-requirement loads of cylindrical vessels, transformers, machinery, etc., which can be built up in loads of great height. (Such heavy loadings are a real aid in helping to ease the present car shortage, incidentally.) Thus, the Erie occasionally gets shipments of such material that might have been handled by its competitors.

High and wide shipments usually travel in local trains rather than in "hot shots," because they have to be watched closely. As much as two or three years ahead of movement date the Erie may be making plans with some manufacturer to move his large shipment, or a connecting road may consult the Erie about the possibility of getting some shipment over the line. Veteran Erie traffic men tell of manufacturers who built various special machinery, etc., only after a study of Erie clearances. In some cases this has meant that tanks, etc., could be built to capacities greater than had been thought possible.

There is no doubt that the Erie's ability to handle high and wide shipments has helped the line to secure more normal traffic that it otherwise could have taken from competitors.


A typical high and wide load
Erie 50-ton box car
Shipments higher and wider than published clearances but within this line may be made with special movement and advance acceptance by Erie representative
Published clearance line for Erie. Shipments within this line require no special movement or approval
Maximum published clearances between Chicago and New York via other roads

Clearance lines shown are between Hammond, Ind., and Jersey City, N. J.

"Why" the Erie can handle large shipments. Other roads may sometimes short-haul the Erie on the west end — but when such freight gets down East the Erie gets it

Perishable "Hot Shot"

One other service for which the Erie is famous is the handling of perishable freight, i.e., fruits and vegetables, particularly from the West, with citrus fruit having held the spotlight. However, no perishable classification other than oranges and grapefruit even hits the list of the first 25 revenue producers to the Erie. (Food products,

This tank for a gasoline refinery is typical of the "high and wide" the Erie handles because of its greater than standard clearances diagrammed to the left

Erie's famous NY-98, near Mansfield, Ohio. She's scheduled to leave Marion at 10 o'clock each morning and arrive at Croxton at 4:30 p.m. the following afternoon

Sixteen cars of perishables leave the Jersey shore on their way to Duane Street piers in New York. This car float is being handled by a radio-equipped tug

n.o.s. in cans and packages, not frozen, does hit number nine.)

As a matter of fact, perishables brought the Erie only about 5 per cent of its gross freight revenue in 1950. Yet revenue from perishable traffic is probably more important to the Erie than it is to most of the Erie's rail competitors.

Obviously, however, the Erie has not gained its reputation solely because of the revenue from perishables. Rather, it would seem to be maintenance of good guaranted service between its western gateways, particularly Lima, Ohio, and Chicago, that wins the road such a large proportion of this traffic against stiff competition from other rail lines, and presently, from trucks.

To meet this competition, the Erie runs, out of Chicago, each night at 7:30, a perishable "hot shot," Number 98, which may, during the busy season, run in several sections, with connections at Marion, Ohio. NE-98 is formed at Marion, and carries perishables mainly for New England points, most of which the Erie delivers to the New Haven at Maybrook, N. Y., while NY-98, also made up at Marion, is a New York train. (These trains, along with the "Flying Saucer," the Erie's merchandise special, are the prime concern of Erie operating and traffic folk.)

There is a desire to hold on to the perishable traffic, in spite of a claim angle involved. If a car of perishables should miss the market through failure of the Erie to make schedule, and the market should drop, the Erie becomes liable for a claim amounting to the difference between the market price on the date the car should have been available and the price on the day sold.

There's a lot of California's sunshine laid out for inspection here at Duane street

The Erie boasts that, at New York, any car ordered to the railroad's piers before 2 p.m. on any given day will be placed for unloading that evening. By and large it makes good. This requires good communications between the perishable agent at Duane Street station in New York and the yard forces at Croxton, N. J. This is provided by means of Teletype between the yard and the pier station; in a pinch, the Erie can get the perishable freight from Croxton to the piers in pretty short order.

Cars Quickly Located

The Duane Street-Croxton Teletype hook-up, incidentally, is only a part of a system-wide network. Fast communications are the result, which means that Erie shippers and receivers get up-to-date information on location of their cars. Thus Teletype, too, helps the Erie hold the perishable business, because the shipper, knowing where his car is, can divert it successfully, to gain the advantage of the most favorable market.

A large percentage of perishables arriving at New York are disposed of either by direct sale or by sale at auction. There are three phases to the sale of perishables. Beginning at 10 p.m., the "early delivery" fruit and vegetables are unloaded. Later, fruit or vegetables must be brought to the Manhattan piers for auction at 1:30 a.m. Then, at 7 a.m., there is the big auction.

When fruit and vegetables are unloaded they are taken to the areas on the pier which have been assigned to the various consignees. Therefore, to perform the unloading operation as economically and speedily as possible, Agent F. M. Sportelly and the yard forces plan to place various cars on floats which will be berthed at fixed locations close to the place where the fruit will be displayed or delivered.

Normally, cars of perishables traveling from Chicago will be reiced at Marion and again at Hornell. Cars not unloaded for the immediate market are held at Croxton and reiced as necessary.

Many of the Erie's fork-lift trucks at Jersey City and Weehawken are equipped with push-off devices to speed up handling. At its New York piers, too, where l.c.l. is handled, the Erie has a lot of mechanical handling equipment

Erie Goes to Sea

The Erie, in common with other railroads serving the New York harbor area, operates extensive facilities for the handling of export, import, and coastwise freight. In addition, because its rails do not enter New York City, the Erie has on Manhattan island a number of piers for the handling of forwarder, l.c.l., and perishable traffic. Since delivery of freight to shipside or to the railroad's own New York piers generally is provided for in through rates, the Erie finds it necessary to operate a good-sized "navy," which includes 12 tugboats, 3 derricks, 102 barges, 19 refrigerator barges, 14 gas hoist and 2 steam hoist lighters, 74 scows and 26 car floats, for a total of 252 units, plus five ferryboats. Erie tugs deliver car floats to eight piers on the New York side of the North (Hudson) river (including the Harlem River station in the Bronx). On the New Jersey side of the river the Erie maintains at Weehawken seven piers for the handling of lighterage freight. Two of these piers will berth steamships, while the others are used for loading and unloading barges, scows and lighters. At Jersey City the Erie operates another four piers, one of which can handle steamships.

At piers on the New Jersey side of the river, to handle freight expeditiously, the Erie operates a pool of 26 fork-lift trucks. These trucks are shuttled back and forth between Jersey City and Weehawken as needed, so that piers having the most tonnage to handle in any

A locomotive crane handles a heavy lift at the Erie's pier "H," Weehawken. Erie handles more than a million tons of lighterage freight each year

Two scows (open decks) are in the foreground, while in the center background is a barge (covered deck) as gantry cranes handle export freight at Jersey City

given day have the largest number of fork trucks to do the work. Also, there are gantry and locomotive cranes, tractors, and trailers to handle the business there, in addition to lighters equipped with lifting devices. Whenever extra heavy lifts, from or to lighters, ships and the shore, are required, the Erie calls on an engineering organization which has the equipment to do such work, as do other railroads operating in the harbor.

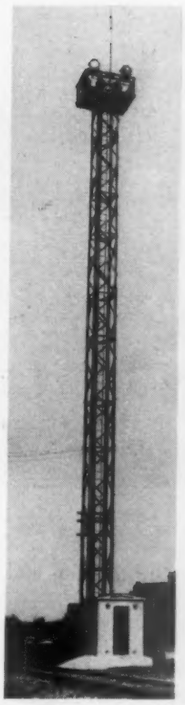
Freight consigned to steamships berthing at other than the Erie's New Jersey piers generally is handled from the Weehawken or Jersey City piers into some of the Erie's navy. Then it is moved to shipside or to the steamship piers for delivery. This operation is generally known as lighterage. At its option the railroad may truck the freight rather than lighter it.

Party Line

Outstanding in the railway communications field is the Erie's four-way mainline radio-telephone system, now in service on over 90 per cent of the road's main-line trackage between New York and Chicago. Articles on these facilities were published in the September 11, 1948, *Railway Age* and the December 1948 and August 1950 issues of *Railway Signaling and Communications*. Radio-equipped trains now run all the way from New York to Chicago and, with the early completion of seven base stations now under construction between Marion, Ohio, and Hammond, Ind., the Erie's four-way system will be in service over its entire main-line trackage between New York and Chicago.

The system, which is daily demonstrating its benefits as an effective and integral factor in dependable, efficient railroad operation, permits train crew members to communicate not only between engine and caboose, and between trains, but also with wayside stations at all times; adjacent stations also can communicate with each other.

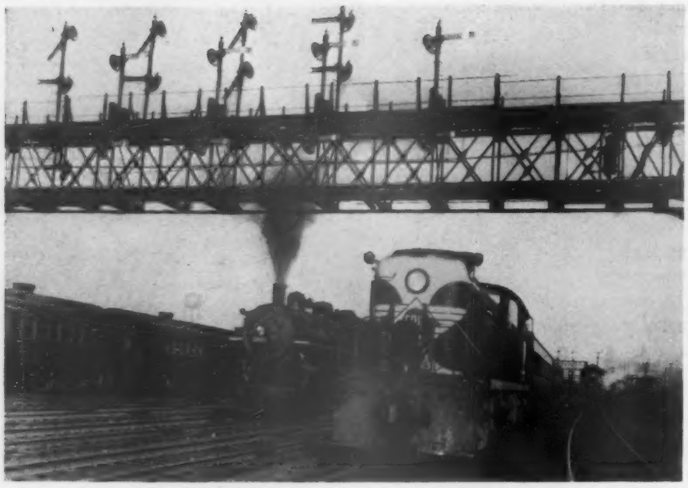
Erie radio installations now established, or authorized this year, include 214 diesel "A" units, 58 cabooses and 59 wayside base stations, to provide radio over 1,583 miles of trackage, or 67.5 per cent of the entire system mileage between New York and Chicago.



Left—Two-way railroad radio antenna mounted atop floodlight tower in the Erie's yard at Marion, Ohio. Radio equipment is sheltered in the concrete house at base of tower. Right—Operator at wayside base radio station communicating with train crew. Operating unit is at the left and transmitter, receiver, power supply unit and control unit (top to bottom) in the background

In addition to its main-line train communication facilities, the Erie is also employing radio for two-way communication between yardmasters and switching locomotives, to increase overall operating efficiency and effect improved service to shippers and consignees, in yards at Jamestown, N. Y., Marion and Chicago. Additional yard radio installations, involving base stations and 36 diesel switchers, are authorized for Buffalo, N. Y., in Jersey City, N. J. This use of radio has resulted in a tremendous saving in time, in that tug captains now receive their orders en route without having to return to their base

Left—Member of Erie train crew using radio in caboose. Right—Captain of Erie tug boat, "Scranton," in New York harbor receiving instructions by radio from marine dispatcher



Dieselization of the Erie's northern New Jersey commuter services has passed the half-way point, with 1,500-hp. road-switchers (right), and 2,000-hp. road units, replacing light, medium and heavy Pacifics (center). Most of the coaches used in the service (left) have recently been modernized and redecorated

Meadville and Sharon, Pa., and Youngstown, Ohio, and will be completed during the current year.

The road's New York harbor radio service between the boat dispatcher in Jersey City and 12 tugs in lighterage service in the harbor has increased safety and dependability of railroad marine operations through immediate issuance of orders, assuring on-time delivery of perishable and other domestic and export freight.

For many years, the Erie was convinced of the possibilities of dependable train communication in railroad operation, and its management kept in close contact with experimental progress since the beginning of "wireless" communication. Following World War II, during which widespread use of very-high-frequency radio by the armed forces led to substantial advances in equipment and tube design, practicable radio and improved induction systems were developed for use in train communication. As a result, in 1945 and 1946, the Erie conducted tests along its right-of-way of inductive carrier and both AM and FM very-high-frequency equipment and, in February 1947 established its New York harbor radio service.

Also, in February 1947, arrangements were made to conduct additional prolonged tests, to determine the most practicable type of communication available for use in main-line operation. Seven base stations were set up between Marion and Kent, 115 miles, and a freight diesel locomotive and caboose were equipped with radio. A year or more of experimentation followed, in which the system was developed and, in July 1948, it was placed in service over three divisions from Marion to Salamanca, N. Y., providing radio coverage of 360 miles of main-line trackage. The equipment in this part of the installation included nine four-unit diesel freight locomotives, seven three-unit passenger diesels and 15 cabooses. Extension of the system eastward from Salamanca to Jersey City and New York was commenced in 1949, and placed in service early in 1950.

Development and installation of these radio communication facilities on the Erie have been carried out under the direction of the road's superintendent of communications, F. H. Menagh. The main-line and yard radio equipment has been furnished by the Capehart-Farnsworth Corporation, an International Telephone & Telegraph Corp. affiliate. That for the New York harbor marine service was furnished by the Westinghouse Electric Corporation.

7:50 to Jersey City

Hohokus, N. J., isn't just the title of an almost popular song. It's also a real town in New Jersey's rapidly growing Bergen county. And if you want to see who's who in Hohokus—or in Upper Ridgewood—stand on Erie's Hohokus station platform any weekday morning at 7:49; half the male population of the town, and a good percentage of the female as well, will be there, or breathlessly getting there, for the 7:50—which reels off the 21 miles to Jersey City, with one stop, in 30 minutes.

They are part of the approximately 20,000 commuters whom the Erie carries into Jersey City—mostly en route to New York—every working day, and carries home again in the late afternoon. The business has dropped off over the past two decades—from somewhere around 24 million suburban passengers a year in the middle twenties to a little less than 9 million in 1950—because of the gradual shift of business activity northward from lower to midtown Manhattan, the opening of the Holland and Lincoln tunnels and the George Washington bridge, and the development of bus and automobile transportation. But 20,000 commuters a day, mostly concentrated into two peak periods of about an hour each, is still big business—and it takes smart railroading to handle it with the 99 per cent on time performance the Erie maintains.

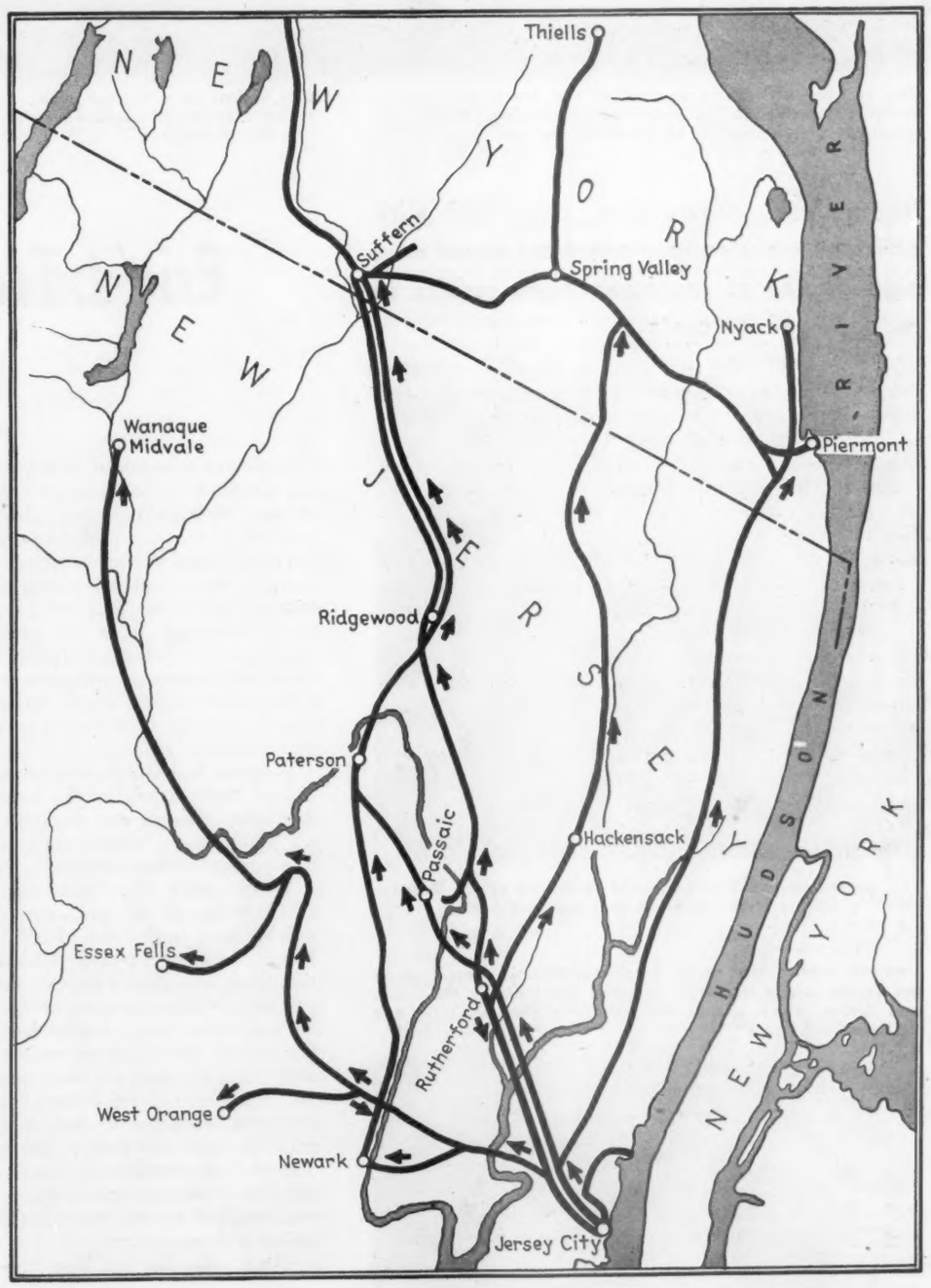
The average commuter, the railroad says, travels 31 miles, with a maximum distance of 88 miles, at an average fare per mile of only 1.661 cents—which costs the Erie, out of pocket, around $2 million a year. To handle them all requires over 60 trains both morning and evening, varying from two to nine or more cars, and made up from an equipment pool of 55 diesel and steam locomotives, 255 84-seat coaches and six gas-electric cars. Most of the coaches have recently been modernized, with new seats and new ventilating systems, and the remainder are slated for modernization this year or early in 1952. About half the total traffic, including most of that on the main and Bergen County lines, is now handled by 1,500-hp. road-switching and 2,000-hp. road diesels.

At Jersey City, there is an early morning peak of 23 trains in 38 minutes; which means that each train can be allowed an average of only four minutes on any of the 12 terminal tracks. Nineteen of the 23 trains must

be backed out to storage yards while trains are still arriving on main-line tracks, making a movement past the terminal tower every 38 seconds. The evening peak is between 5:05 and 6:05 p.m., when 30 trains depart. From the terminal to Croxton yard, just west of Bergen hill, where the Greenwood Lake and Northern lines branch off from the main, there are four tracks, all signaled for movement in either direction; normally, three of them carry rush-hour service and the fourth is reserved for movement in the opposite direction.

Like any commuter line, the Erie's suburban passenger business is one of high peaks and deep valleys; in an effort to build up off-peak hour travel it has lately offered, under certain conditions, round-trip tickets for the regular one-way fare plus one cent from all stations inside of, and including, Port Jervis, N. Y. A. G. Oldenquist, passenger traffic manager, says these bargain fares, well advertised, "have proved to be attractive and have resulted in considerable new patronage."

Erie passenger service, of course, is not all short-haul suburban business, although it is now limited to the metropolitan area, the New York-Chicago main line and the Cleveland-Youngstown line. The Erie emphasizes comfortable, efficient, courteous service—supplemented with highly regarded dining service—between terminals and intermediate centers, and between those centers themselves. It operates three through trains each way daily—well equipped, fully dieselized, and so scheduled as to provide optimum service to the various on-line cities between its two terminals.

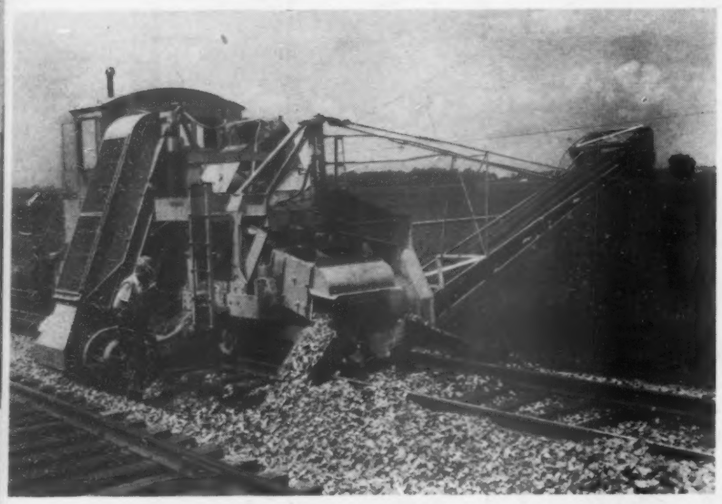


With each arrow indicating a train, this map shows the situation prevailing in Erie commuter territory south of Suffern at 6 p.m. on a typical weekday. Including the Spring Valley line of the separately operated New Jersey & New York — which uses Erie equipment and the Erie's Jersey City terminal — there is, roughly, a trainload of homebound commuters on each five miles of the 144 route-miles of line. The density is even greater on the main and Bergen County lines through Rutherford, Passaic, Paterson and Ridgewood

One of the outstanding aspects of the Erie's maintenance methods relative to its heavy-duty main-line track construction is the practice of cleaning the crushed stone or slag ballast on a regular cycle. This practice, it holds, promotes economical maintenance and extends the useful service life of crossties

Heavy-duty construction, combined with efficient maintenance practices based on a high degree of mechanization, results in reduced upkeep costs

Erie's Tracks Attain



The latest equipment to be placed in service by the Erie for cleaning ballast is the on-track unit pictured here

Unusual among the many track-maintenance machines in use on the Erie is this unit, designed and built by the road's own forces, which shapes the ballast in the shoulders and the intertrack space

As the end-product of 100 years of progress the Erie has developed a main-line track structure representative of the highest standards of construction and maintenance to be found on American railroads today. Erie engineers have never hesitated to take the initiative in putting into effect advances in construction or maintenance practices long before most other roads were ready to accept them for general application. An example is the Erie's practice, now in effect for many years, of periodically cleaning ballast in main-line track, a procedure which usually involves removal and cleaning of material in tie cribs as well as that in shoulders and intertrack space.

Progress in track betterment on the Erie has consisted (1) of improvement of the track structure itself to give it greater strength and durability, and (2) development of maintenance practices and equipment aimed at minimizing track-maintenance costs.

As the result of progress made in the first category, 2,317 miles, or 99 per cent, of the road's main-line mileage was, at the end of 1950, laid with rail weighing 110 lb. or more per yard. A total of 1,037 miles of main-line track was laid with rail weighing 130 lb. or more per yard. Other elements of the track structure include six-hole joint bars, double-shoulder tie plates (adopted this year), 24 8½-ft. creosoted ties to the 39-ft. panel, and crushed stone or slag ballast placed to a depth of 10 inches under the ties over 6 inches of subballast. New rail is control cooled, and is end-hardened in the track to minimize batter. For many years the practice was to fasten practically all tie plates in main track to the ties with lag spikes fitted with double-coil spring washers, but recently the decision was made to use such spikes only on curves.

Much attention has been given on the Erie to getting

Left—Each year battered rail ends in about 100 track-miles of line are built up by welding. Right—Nine crawler bulldozers on the Erie are equipped with special boom attachments so that they may be used for laying rail

Highest Standards

maximum life from crossties. The use of relatively large tie plates, heavy rail, and lag screws for the tie plates, and the practice of keeping ballast clean and in a free-draining condition, all have contributed to this end. As the result, the Erie is now getting a life of about 29 years from the ties in main-line track.

As a further step in the direction of getting more service life from crossties, the road, after making extensive field tests, recently started to a considerable extent the practice of coating the tops of ties in track, including the areas under tie plates, with a special waterproofing compound, the purpose being to prevent entry of water into cracks or checks. Preliminary results of earlier test installations of this compound have proved so satisfactory that its use is being extended. To give greater holding power to lag screws and rail-holding spikes, and thereby to minimize plate cutting of ties, the road is experimenting with a wood-hardening compound with adhesive properties, which is inserted in pre-bored holes in ties before lag screws or spikes are driven. Results to date indicate this compound is effective in enhancing the holding power of spikes.

Another example of the Erie's practice of taking advantage of developments that give promise of extending the service life of track materials and of reducing maintenance costs is its use of spring-rail frogs. In 1937 the road started installing an improved spring-rail frog in turnouts from main-line track that are not used intensively. That these frogs have given satisfactory service is indicated by the fact that it has not been necessary to remove any of them from service because of wear.

The frequency with which track is raised and tamped on the Erie has contributed greatly to the high standard of track maintenance for which this road is noted. Where ties have to be respaced in connection with rail-laying work, and where heavy tie renewals are necessary, the track is given a 3- to 5-in. raise. This work is referred to on the road as "reballasting."

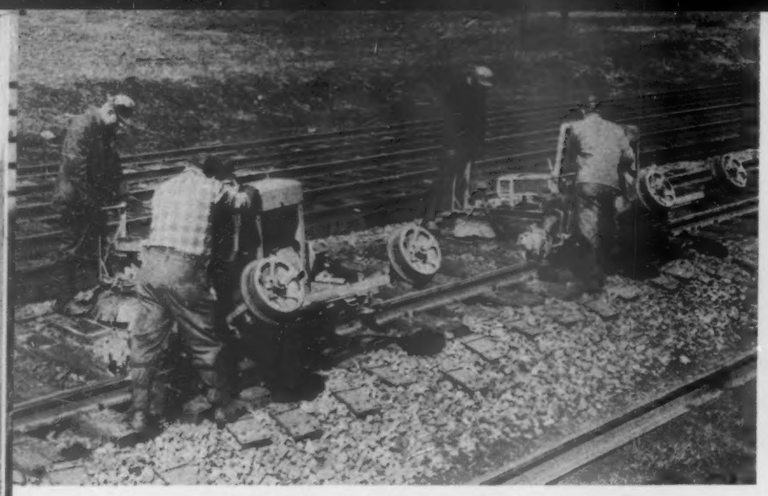
Where surfacing work is carried out at locations where the laying of new rail is not contemplated, so that no respacing of ties is involved, and where tie renewals are relatively light, track is given a maximum lift of about 3 inches. This operation is known as "resurfacing." Formerly, the practice, in reballasting or resurfacing, was to hand tamp the track with forks, and then to tamp it with pneumatic tools the following year. Several years ago the road began to tamp track in connection with reballasting or resurfacing work with large on-track tampers of the impact type. This has proved economical, and use of the machines has been extended so that today the road has four of them in operation.

At present the road is moving toward a policy of raising and tamping track every four years, at which time all ties will be renewed that cannot be expected to last another four years. In this work the track will be given a 2-in. to 2½-in. raise, and it is planned to simplify the task of "digging in" new ties by using cribbing machines to remove the ballast in cribs adjacent to the ties to be renewed.

As previously mentioned, the Erie for many years has followed the practice of cleaning all ballast in main-line track periodically. The practice heretofore has been to clean ballast on a 2- to 6-year cycle, but it is expected that dieselization of the road's motive power, soon to be 75 per cent complete, by eliminating fouling of ballast by stack ashes from steam locomotives, will make it possible eventually to put ballast-cleaning operations on a 3- to 12-year cycle.

Originally, ballast-cleaning work on the Erie was done with machines of the mole type, the first of which was acquired in 1928. The road is now beginning to replace these with on-track ballast-cleaning machines, one of which has been acquired to date, with others on the budget to be obtained in the near future. One of the earliest believers in cleaning ballast between ties along with that in shoulders and intertrack space, this road for many years has used on-track cribbing machines for removing ballast from between ties. Eight such machines of an improved type are used for this purpose.

An example of the Erie's selection of unorthodox



Each rail-laying gang is furnished various units of work equipment, including power-operated machines for adzing ties

Track-mounted burners comprise one of the various methods used to control weeds along the right of way

Recently the Erie has made many installations of gas-burning switch heaters remotely controlled from dispatchers' offices. The maximum distance between one of these switch-heater installations and the point of control is about 80 miles

machines is its use of crawler bulldozers, equipped with special booms for laying rails. Other machines used by rail-laying gangs include power spike pullers and drivers, power adzing machines, power bolt tighteners, and rail saws and rail drills. Each rail-laying gang usually consists of either 35 men or 70 men, and is built up of section men supplemented by extra forces. The average production of a 35-man gang is one-half track-mile of rail laid per day, while that of a 70-man gang is about 1¼ track-miles.

Aside from the mechanized equipment used by its rail-laying and tamping gangs, the Erie has a wide variety of other types of machines for performing various maintenance tasks. It is leaning strongly toward use of off-track equipment for ditching and right-of-way grading operations, with the result that 75 per cent of this work is now performed by equipment of this type.

Other off-track equipment includes seven tractor-compressors with material-handling buckets. On occasion these units may be used to supply air for the pneumatic tamping of ties or for operating other types of air tools, or they may be used for handling materials or snow. A large number of power-mowing machines are available on the road for keeping right-of-way weeds under control, while at the more important passenger stations small two-wheel tractors are used for mowing grass during the summer and for plowing snow from sidewalks and platforms during the winter.

For use as needed on his territory each supervisor of track has several items of power equipment. These include, on each supervisor's territory, one or two power bolting machines for use by section forces, two power boring machines for drilling holes for lag screws, a power rail saw, and a power rail drill. On each subdivision there is a portable electric generator used for operation of floodlights during emergencies and for small power tools.

Mechanization has also penetrated to the section gang. Each main-line gang is equipped with either two unit tampers, or a small portable tamper and two pneumatic tie-tamping guns.

Many years ago Erie engineers became convinced that the best performance from mechanized equipment could only be obtained if adequate provisions were made to keep it in good repair all the time. For this purpose a system work-equipment repair shop was established at Meadville, Pa., at which nearly every unit of maintenance-of-way work equipment is torn down and rebuilt once each year. In addition, five other shops, at strategic points throughout the system, are available for emergency and running repairs.

One of the recent developments of a labor-saving character on this road is the installation on a large scale of remotely controlled gas-burning switch heaters. Such heaters have been installed at 19 locations, largely at points where former interlocking plants have been removed and control of switches centered at some other point. Eleven installations of the remotely controlled heaters are between Corry, Pa., and Hornell, N. Y., which is the road's most difficult snow territory. In these installations the igniting of the gas burners of the switch heaters is controlled from a dispatcher's office. Remote control of these devices has made it possible for 12-inch snowfalls to be handled without putting men on the job.

What has the Erie gained from its policy of building its tracks to a high standard and of maintaining them with mechanized equipment in the hands of well-knit, carefully organized gangs? The answer is partly provided by the fact that total maintenance-of-way operating expenses for the year 1950 were $431,000 less than in 1949. The fact is, however, that the savings were much greater than represented by this figure, as the service loss due to retirement of non-depreciable property and the cost of making retirements and of removal of snow and ice for 1950 were greater than in 1949.

These savings are attributed by the railroad to the purchase and use of additional work equipment machinery, better organization of work, and higher efficiency of the men, as well as appreciable savings in the cost of superintendence. While this is only a year-to-year comparison, it indicates that the Erie is making substantial progress in the reduction of expenditures necessary to keep its tracks to the high standards required by present-day conditions.

A Brief Look at

ERIE TODAY

Shows — High traffic potential
Fine physical condition
Favorable finances

June 19, 1942, was the day icicles froze in hell. For on that day the Erie, for the first time in 69 years, declared a dividend on its common stock—and for most of those 69 years New York's Wall Street financial community had considered the former event rather more likely than the latter.

The Erie's metamorphosis, from a company whose name was once synonymous with debt and financial instability to one which was recently described by the president of another large line as "financially the strongest railroad in the East," is a result of many factors. There were, to mention only a few, its final achievement under President Thomas of full trunk-line status; its intensive development under its twentieth Century presidents, Underwood, Bernet, Denney, Woodruff and Johnston; its emphasis on *service* to shippers; its extensive dieselization.

The combined overall result of those accomplishments —reviewed in other articles in this issue—is clear enough. But how, in more detail, have they affected the Erie physically—financially? In what condition have they placed it at the beginning of its second century? What, because of them, is its future outlook?

High Traffic Potential

Service-wise, the Erie connects the nation's two largest cities; between them, it cuts across one of the most heavily populated and most highly industrialized sections of the United States, with direct access to such important traffic generating centers as Hammond, Ind., Dayton, Springfield, Akron, Youngstown and Cleveland, Ohio, Meadville, Oil City, Scranton and Carbondale, Pa., Dunkirk, Buffalo, Niagara Falls, Rochester, Corning, Elmira and Binghamton, N. Y., and Paterson, Passaic, Newark and Jersey City, N. J. As pointed out elsewhere in this issue, it has developed an enviable reputation for fast, reliable freight movement, especially of oversize shipments and of such high-rated commodities as perishables and livestock.

It is not overburdened with unprofitable branch lines; and, except in north Jersey commuter territory, it has succeeded in limiting passenger service to its main line and its Cleveland branch, eliminating losses from lightly patronized branch line passenger runs.

Property in Excellent Condition

Thanks to expenditures of over $114 million on improvements to road and equipment in the past 10 years its physical property is in excellent condition. Its annual report for 1950 states that "ownership of steam locomotives at the present time is 235, having been reduced by 516 since 1945. In that same period 306 diesel units were acquired. . . . When current orders are filled, the Erie will have 396 diesel units." In other words, more than 56 per cent of its motive power is now, and nearly 75 per cent soon will be, not over five years old.

At the end of 1949, 20.59 per cent of its freight cars were from one to five years old, and 67.96 per cent not over 20 years old, compared with national averages of 17.37 per cent and 47.06 per cent, respectively. Only 1.19 per cent of Erie freight cars were over 30 years old, against 18.75 per cent for all Class I railroads.

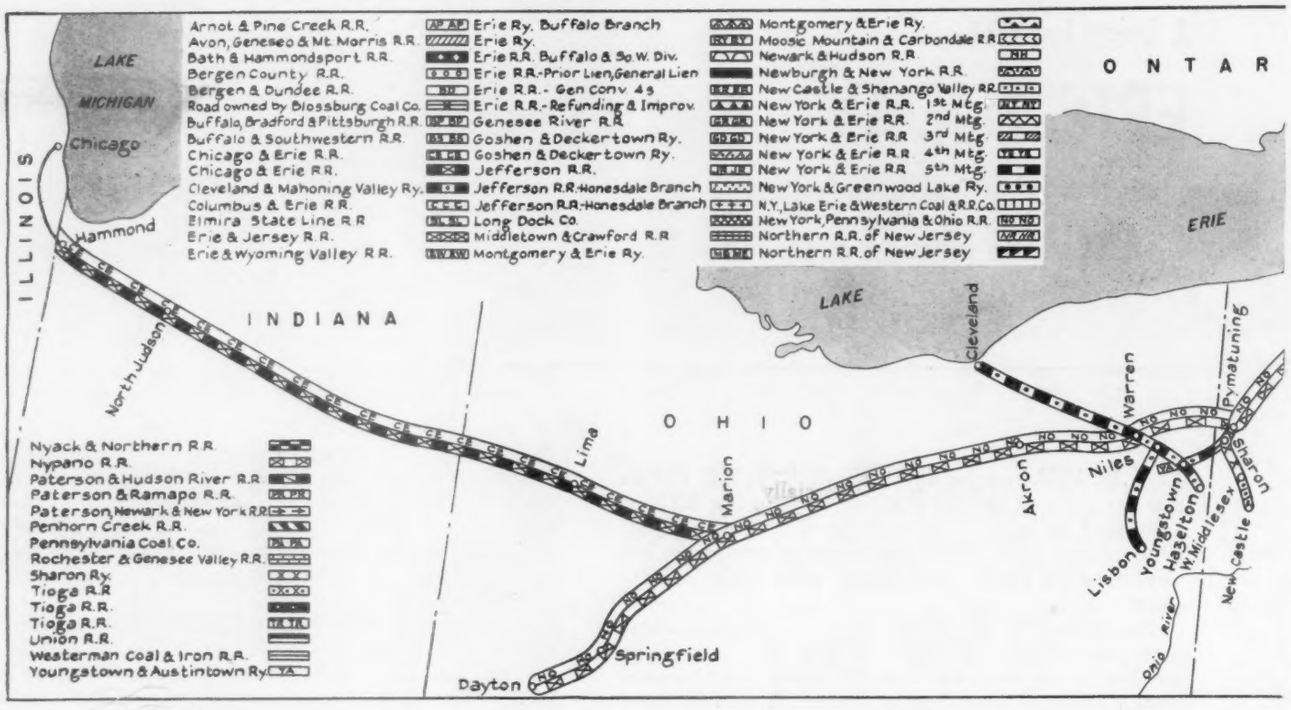
These facts—plus its modern track structure described elsewhere in these pages—lend point to the statement made by President Paul W. Johnston in a recent address to the New York Society of Security Analysts: That the Erie is not likely to be faced in the near future with the necessity of making any extraordinarily heavy capital expenditures.

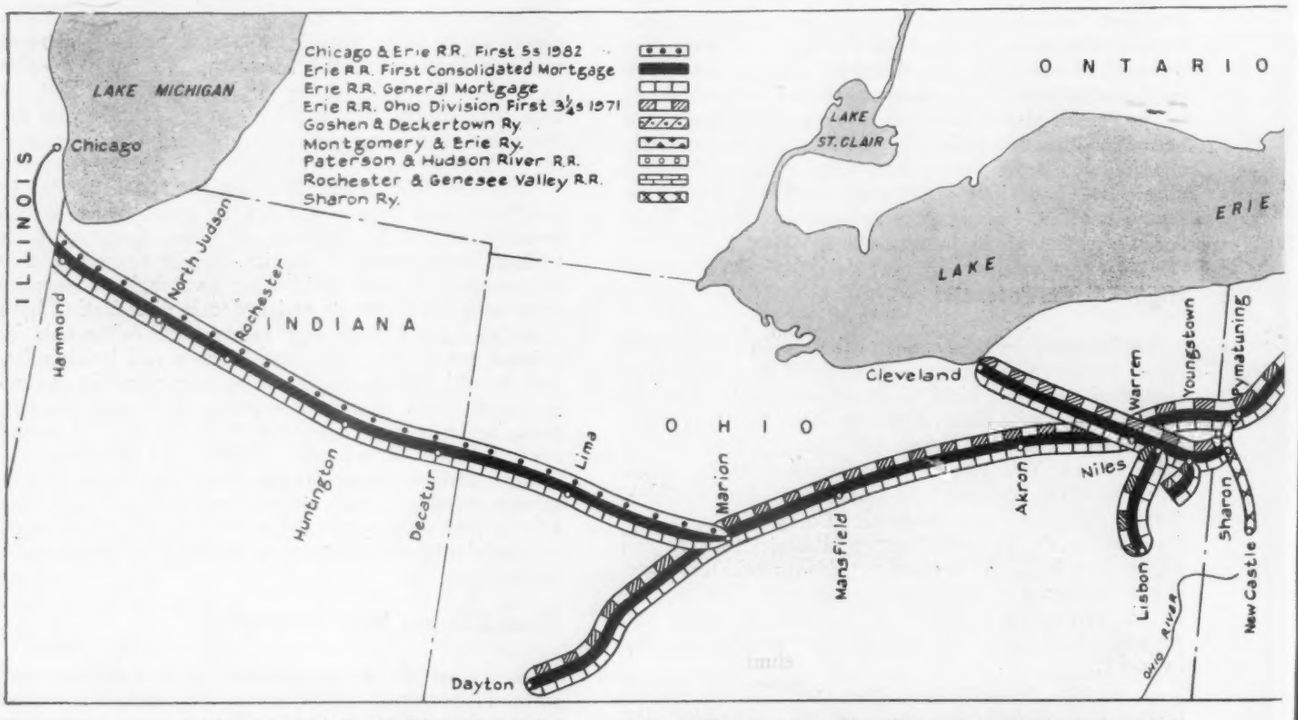
This does not imply, Mr. Johnston was careful to point out, that money will not be spent where it can produce returns in the way of lower operating costs without impairment of service. While conceding that the company's opportunities for spectacular economies from such developments as large-scale dieselization have been at least temporarily pretty well exhausted. he pointed out that his administration is still looking for, and is still highly receptive to, any possible money-saving projects. As an example, he cited the work, currently under way, of removing some 50 miles of second track between Hornell and Buffalo, and installing centralized traffic control on the remaining single track; salvage value of track removed will, he indicated, pay a large part of the cost of the new signaling, and there will be a substantial saving in future track maintenance costs.

Fixed Charges Well Covered

Fixed charges for the past five years have averaged just a little over $5 million annually; contingent interest charges just a little over $2 million. In each year since 1942, fixed charges have been earned, after federal income taxes, by from two and one-third to four and one-third times; fixed and contingent interest charges together have been earned from one and two-thirds to three times. In 1950, for example, income available for fixed charges after taxes was $20,718,999—enough to cover fixed charges of $5,150,416 by 4.02 times, and combined fixed and contingent interest charges of $7,263,506 by 2.85 times.

Net working capital (excess of current assets over

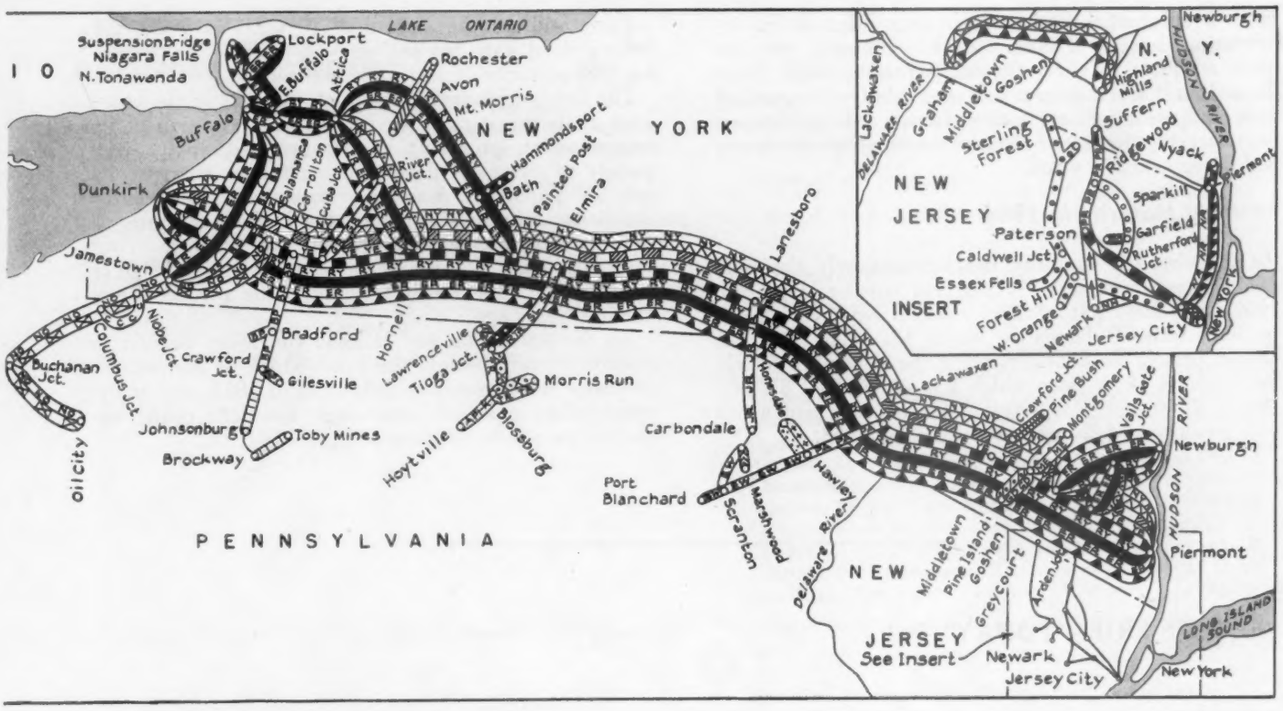


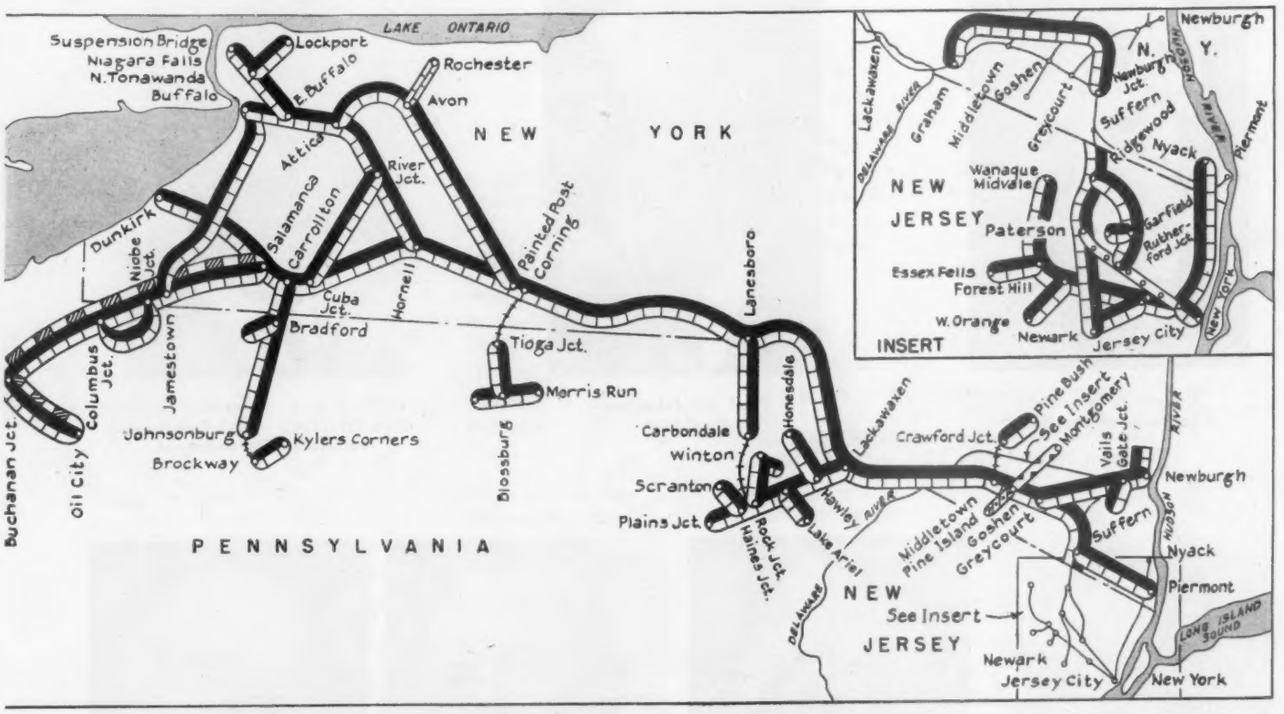


One of the very real advantages which the Erie enjoys today is the relative simplicity of its present streamlined financial structure, as compared with its complicated financial setup of 25 years ago. The difference is clearly portrayed by these comparative maps — for 1926 (above), when, for example, the Erie's line from Piermont to Dunkirk was burdened

current liabilities) of $15,902,212 as of December 31, 1950, was sufficient to pay fixed charges for something more than three years, or to pay fixed and contingent interest charges together for well over two years. Not included in current assets were an additional $22,518,506 in stocks and bonds of affiliated companies and advances to such companies, and, in addition, $10,200,000 in U. S. government securities.

Although an $8.1 million issue of equipment trust certificates increased the Erie's total funded debt by a





by no less than nine different classes of debt; and for 1951 (below), when the same line is subject to only two mortgages. These maps are based in part on similar copyrighted maps published by White & Kemble, 68 William street, New York. They are reproduced here by special permission of the Erie and of White & Kemble

very small amount in 1950, it has no important near-term maturities of such debt. The first big maturity is October 1, 1964, when $12,181,000 of first consolidated mortgage 3¼ per cent series E bonds become due; the next big maturity is in 1971.

This year's equipment trust payments, to be sure, including the first semiannual installment on a $5.4 million issue sold in January, amount to nearly $5.5 million; they will be only slightly less in 1952, 1953 and 1954, but after that, barring sale of large new issues, they will

show a substantial decline each year. Meanwhile, depreciation charges of more than $7 million a year are quite adequate to cover present payments, while President Johnston's statement and the relative newness of Erie equipment indicate such payments will not have to be materially increased through new equipment trusts within the next few years.

First Big Maturity in 1964

Otherwise, the company has to meet only the final $500,000 payment of a 3⅞ per cent note on March 15, 1952, and $945,000 of first consolidated mortgage 2 per cent series H bonds on March 15, 1953. The note should present no difficulty, while the bonds are merely the remnant of an issue which was reduced by $1,496,000 in 1950 and $430,000 thus far in 1951 and which will possibly be fully retired well before 1953.

There will then be more than 10 years in which the sinking fund can be utilized substantially to reduce the 1964 maturity of series E bonds.

The Erie's high traffic potential, inherent in the character of the territory it serves; the fine condition of its transportation property; its demonstrated ability adequately to cover its fixed and contingent charges; its lack of important near-term maturities; the relative simplicity of its present "streamlined" debt structure, as shown by the accompanying maps, give the Erie of today, as it goes into its second century, a far brighter outlook than that which faced its little predecessor a hundred years ago.

To the extent that any railroad can today be said to control its own destiny, the Erie—which so successfully overcame the tremendous difficulties of 1851, and of the years before and after—can surely face with confidence the comparatively brighter prospects of 1951.

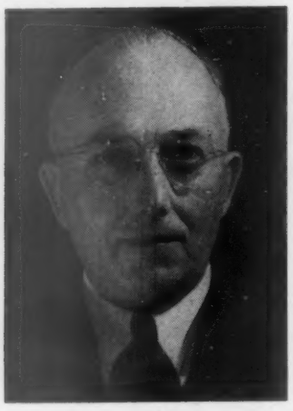
MEN OF ERIE—TODAY

Robert E. Woodruff
Chairman of the Board

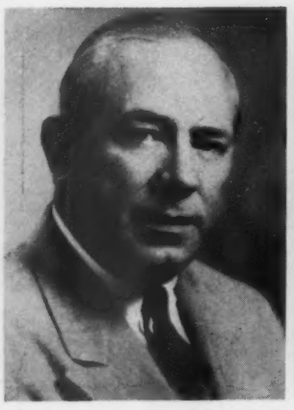
Paul W. Johnston
President

A. B. Johnson
Vice-President—Real Estate and Industrial Development

M. G. McInnes
Vice-President—Operations



W. T. Pierson
Vice-President & General Counsel



T. J. Tobin
Vice-President & Comptroller

H. W. VonWiller
Vice-President—Traffic

"LITTLE RED SCHOOLHOUSE FOR RAILROAD PRESIDENTS"

Erie men of today are justly proud of the fact that it is sometimes called "the little red schoolhouse for railroad presidents"; no less than 19 Erie men have gone on to become presidents or chief executives of other railroads. The names of those men, their connection with the Erie, and the other companies which they headed, are listed below.

	Years with Erie	Highest Position	President of	
Hugh Riddle	1846-51 1853-66	General Superintendent	Chicago, Rock Island & Pacific	1878-83
Cyrus K. Holliday	.....	Attorney	Atchison, Topeka & Santa Fe	1896-1900
James H. Rutter	1854-55 1859-72	Assistant General Freight Agent	New York Central	1883-
Samuel M. Felton	1884-90	1st Vice-President	East Tennessee, Virginia & Georgia (now Southern)	1890-92
			Cincinnati, New Orleans & Texas Pacific (now Southern) (appointed receiver 1893)	1890-99
			Alabama Great Southern (now Southern)	1895-99
			Chicago & Alton (now Gulf, Mobile & Ohio)	1899-1907
			Mexican Central (now National of Mexico)	1907-09
			Chicago Great Western	1909-25
			Chairman, Board of Directors, C.G.W.	1925-30
			Receiver, Pere Marquette	1912-14
			President, P.M.	1913-1914
Benjamin Thomas	1865-87	General Superintendent	Chicago & Western Indiana and Belt of Chicago	1891-1908
Thomas M. Schumacher	1879-83	Telegrapher	Chairman of Board and Chairman of Executive Committee, C.R.I. & P.	1913-15
			El Paso & Southwestern (now Southern Pacific)	1917-25
			Chairman, Executive Committee, Western Pacific	1926-45
			President, W.P.	1926-42
			Trustee, W.P.	1935-45
			Chairman of Board, Denver & Rio Grande Western, Rio Grande Junction and Denver & Salt Lake	1926-45
E. B. Thomas	1891-1902	President 1895-1901 Chairman of Board 1901-02	Lehigh Valley and Lehigh & Hudson River	1902-16
			Chairman of Board, same roads	1917-19
Edward E. Loomis	1884-99	General Superintendent of two Erie affiliates (New York, Susquehanna & Western and Wilkes-Barre & Eastern)	Lehigh Valley	1917-37
Patrick E. Crowley	1878-89	Train dispatcher	New York Central	1924-31
William T. Noonan	1902-04	Assistant to General Manager	Buffalo, Rochester & Pittsburgh (now B. & O.)	1910-32
			Vice-Pres., B. & O. (remained in charge of corporate activities of B.R. & P. after 1932 with title of president)	1932-40
Daniel Willard	1901-04	1st Vice-President & General Manager	Colorado Midland (now abandoned)	1904-10
			Baltimore & Ohio	1910-41
William J. Harahan	1907-12	Vice-President	Seaboard Air Line	1912-20
			Chesapeake & Ohio	1920-29
John W. Davis	1900-03	Superintendent	Delaware, Lackawanna & Western	1925-40
			Chairman of Board, D. L. & W.	1940-43
William White	1913-38	General Manager, Eastern district	D.L. & W.	1940-
Carl Bucholtz	1914-32	General Manager Western district	Virginian	1934-44
Frank Hedley	1882	Machinist	Interborough Rapid Transit Co.	1919-32
			General manager for receiver	1932-34
			(General adviser to receiver)	1934-40
John J. Bernet	1927-29	President	Nickel Plate	1933-35
			C. & O.; Pere Marquette	1929-35
Charles E. Denney	1927-39	President	Northern Pacific	1939-51
Robert J. Bowman	1926-29	Assistant Vice-President	Pere Marquette (now C. & O.)	1942-46
			C. & O.	1946-48
			Chairman Executive Committee C. & O.	1948-

Erie's Centennial Year

100th ANNIVERSARY OF THE FIRST RAILROAD TO LINK THE GREAT LAKES AND THE ATLANTIC OCEAN

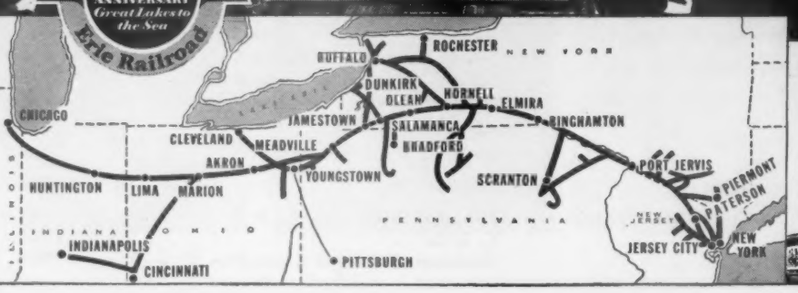
It was a great day on May 15, 1851 when the New York and Erie Railroad completed its first run from Piermont, N. Y., on the Hudson River to Dunkirk, N. Y., on Lake Erie. It was the longest railroad in the United States—446 miles long—and an important milestone in American history.

The passenger list of this first inaugural train included Millard Fillmore, President of the United States, his cabinet members and the famous Daniel Webster, his Secretary of State. Webster, at his own request, made part of the trip seated in a rocking chair securely fastened to a flat car "to better view and enjoy the fine country through which the railroad passes".

It was tough going to build a railroad in those days, for it had to be laid painfully, mile by mile, with sweat and toil; but courage and hopes were high. Here was a great example of the spirit that has built America—for daring and doing has made America great. In the sacrifices and struggles of these pioneers is the often-repeated story in our country's history of free men working with a vision of progress—in this instance, serving the public need for better transportation.

From that humble beginning the Erie has grown with America. Today, the Erie serves its communities along 2200 miles of railroad between New York and Chicago with safe and dependable transportation.

The Erie is proud of its heritage and the progress it has made since the days of 1851. To the more than 21,000 Erie men and women, the indomitable spirit of the pioneer builders remains as a guiding force in their constant aim to provide the best in service . . . and build a better railroad for the years to come!



GENERAL NEWS

N.P.A. Issues First Materials-Plan Rules

They fix operating pattern of the new controls set-up

Regulations establishing the basic pattern for operation of the Controlled Materials Plan were issued May 4 by the National Production Authority of the Department of Commerce. They are C.M.P. Regulations 1 and 3, which outline steps to be taken by affected manufacturers before July 1, when C. M. P. is scheduled to become operative.

As N.P.A. Administrator Manly Fleischmann has described it generally, C.M.P. "is a plan by which three basic metals—steel, copper, and aluminum —are allotted directly to producers on the basis of requirements submitted in advance for the manufacture of goods for the defense program."

Regulations 2, 4 and 5

Regulations 2 and 4 were issued May 10. The former set limits on the amounts of controlled materials that a user may have in inventory, while Regulation 4 establishes rules for deliveries of steel, copper and aluminum by warehouses, jobbers, dealers and retailers. Regulation 5 is expected to cover maintenance, repair and operating supplies generally, but a special M.R.O. regulation is expected to cover the railroads and other surface transportation agencies.

Meanwhile, N.P.A. has announced dates for C.M.P. "educational meetings" to be held in 20 "key" cities; and it has issued an "Official C.M.P. Class B Product List." Also, it is mailing to known producers the forms (CMP-4B) for making applications and reports required of participants in C.M.P. These forms are also available at all N.P.A. field offices.

"A" and "B" Products

The classifications "A" and "B" of products involved in C.M.P. are on the basis of methods to be employed in making allotments of controlled materials for the manufacture of such products. "A" products are of the "custom-built" variety, such as tanks, planes, guns, and ships, and allotments for them will be made by the claimant agencies to prime contractors, who in turn will make allotments to their sub-contractors.

The "B" products are described generally as "common industrial components," including railroad equipment and facilities. Allotments of controlled materials for production of "B" items will be made by N.P.A. industry divisions, and there will be no funneling of materials through prime contractors.

These allocation arrangements are explained by C.M.P. Regulation 1, which also defines "rights and obligations" under C.M.P. Regulation 3 establishes the relative preference status of delivery orders for controlled and other materials needed for production of goods deemed essential to the rearmament program and the general economy.

All allotments under C.M.P. will be based on decisions of the Requirements Committee of the Defense Production Administration. Producers of controlled materials are required by Regulation 1 to comply with production directives and other rules issued by N.P.A.

Regulation 3 states that when a production schedule of a prime contractor making "A" or "B" products is authorized, and an allotment of controlled materials for its completion is made to him by a claimant agency or an N.P.A. industry division, a DO (defense order) rating will be assigned to the schedule. This rating may then be applied or extended to obtain "production material" other than steel, copper or aluminum.

"Production Material"

"Production material," as the term is used in Regulation 3, includes fabricated parts and sub-assemblies, and any material (other than controlled material) which will be physically incorporated in the scheduled product. It also includes containers and packaging materials required to make delivery.

As to filing of the reporting and application forms (CMP-4B), the N.P.A.'s announcement of May 4 urged that this be done "as soon as possible." Until these returns are analyzed and added up, "no accurate estimate can be made . . . of the needs of all defense and defense-supporting programs," the announcement also said.

Railroad Equipment

Railroads will file returns only on the basis of plans for production of new equipment in their own shops. Like returns will be filed by contract builders of new equipment, component parts, and other railroad facilities.

Products on the Class B products list are listed by product classes, each class having a code number. Thus, for example, railroad shops and contract builders having orders for new freight cars would file CMP-4Bs with N.P.A.'s Transportation Equipment Division, the product class code there involved being 37421. Meanwhile, applications for allotments for control equipment for diesel-electric locomotives (product class code 36145) would be filed by manufacturers of such equipment with N.P.A.'s Electrical Equipment Division.

More than 4,000 manufactured articles containing steel, copper or aluminum are on the "B" list. The N.P.A. has also issued a "Product Assignment Directory," listing about 13,000 products and materials required in all types of production and indicating in each case the N.P.A. industry division handling the product.

As noted above, there was also the statement announcing the C.M.P. "educational meetings." The schedule for those meetings is as follows: May 15, Chicago and Detroit; May 16, Philadelphia, Minneapolis, and Houston; May 17, Boston, Dallas, and Seattle; May 18, New York, New Orleans, Denver, and Portland, Ore.; May 21, Cleveland, Atlanta, Kansas City, and San Francisco; May 22, Pittsburgh, St. Louis, and Los Angeles; May 23, Richmond.

In the Week's News . . .

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Net Income for 1951 Reaches $104 Million

Net railway operating income is $174.9 million

Class I railroads in the first three months of 1951 had an estimated net income, after interest and rentals, of $104,000,000, compared with $55,000,000 in the corresponding period of 1950, according to the Bureau of Railway Economics of the Association of American Railroads.

The three-months' net railway operating income, before interest and rentals, was $174,972,499, compared with $123,418,467.

March Even with Last Year

Estimated results for March showed a net income of $51,000,000, the same as that reported in March of last year. Net railway operating income for the 1951 month was $78,262,802, while in March 1950, it was $75,762,315.

In the 12 months ended with March 1951, the rate of return averaged 4.43 per cent, compared with 2.82 per cent for the 12 months ended with March 1950.

Gross in the first three months of 1951 amounted to $2,439,962,625, compared with $1,985,298,368 in the same period of 1950. Operating expenses amounted to $1,934,968,682, compared with $1,622,186,753.

Twenty-six Class I roads failed to earn interest and rentals in the first three months of 1951, of which 10 were in the Eastern district, two in the Southern region, and 14 in the Western district.

Class I roads in the Eastern district in the three months of 1951 had an estimated net income of $25,000,000, compared with $12,000,000 in the same period of 1950. For the month of March their estimated net income was $21,000,000 compared with $21,000,000 in March 1950.

Those same roads in the three months had a net railway operating income of $61,396,293, compared with $48,766,298 in the same period of 1950. Their net railway operating income in March amounted to $32,562,833, compared with $35,056,388 in March 1950.

Gross in the Eastern district in the three months of 1951 totaled $1,089,330,272, an increase of 23.6 per cent compared with the same period of 1950, while operating expenses totaled $896,223,897, an increase of 21.4 per cent.

Southern, Western Results

Class I roads in the Southern region in the three months had an estimated net income of $26,000,000, compared with a net income of $21,000,000 in the same period of 1950. For the month of March they had an estimated net income of $9,000,000, compared with $10,000,000 in March 1950.

Those same roads in the three months had a net railway operating income of $40,010,277, compared with $32,370,429 in the same period of 1950. Their net railway operating income in March amounted to $17,018,132, compared with $13,842,527 in March 1950.

Gross in the Southern region in the three months totaled $364,867,574, an increase of 20.5 per cent compared with the same period of 1950, while operating expenses totaled $276,820,922, an increase of 18.9 per cent.

Class I roads in the Western district in the first three months had an estimated net income of $53,000,000, compared with $22,000,000 in the same period of 1950. For the month of March they had an estimated net income of $21,000,000, compared with $20,000,000 in March 1950.

Those same roads in the three months had a net railway operating income of $73,565,929, compared with $42,281,740 in the same period of 1950. Their net railway operating income in March amounted to $28,681,837, which compared with $26,863,400 in March 1950.

Gross in the Western district in the first three months of 1951 totaled $985,764,779, an increase of 23.1 per cent compared with the same period of 1950, while operating expenses totaled $761,923,863, an increase of 17 per cent.

CLASS I RAILROADS—UNITED STATES

	Month of March	
	1951	1950
Total operating revenues	$ 875,475,035	$ 743,325,732
Total operating expenses	679,662,378	574,408,276
Operating ratio—per cent	77.63	77.28
Taxes	101,438,761	79,745,441
Net railway operating income (Earnings before charges)	78,262,802	75,762,315
Net income, after charges (estimated)	51,000,000	51,000,000
	Three Months Ended March 31, 1951	
Total operating revenues	2,439,962,625	1,985,298,368
Total operating expenses	1,934,968,682	1,622,186,753
Operating ratio—per cent	79.30	81.71
Taxes	282,272,068	199,317,386
Net railway operating income (Earnings before charges)	174,972,499	123,418,467
Net income, after charges (estimated)	104,000,000	55,000,000

MEMBERS OF THE WOMEN'S Traffic Club of New York discussing plans for the organization's luncheon-bridge, held in New York's Waldorf-Astoria Hotel on May 5. All proceeds from the party went to the New York Association for the Blind. Left to right are Miss Olga Saleski, chairman of the club's ways and means committee; Miss Charlotte Rohr, of the association's Braille press; Ellen A. Watterson, club president; Ida Scotti, of the Braille press; and Mrs. Stella Schapiro Roman, chairman of the club's board of directors

I.C.C. Concludes Hearings In Reparations Cases

The public-hearing phase of the so-called reparations cases was closed May 9 with a one-day session held in Washington, D. C., by Division 4 of the Interstate Commerce Commission. The next development will be the filing of briefs for which December 17 was fixed as the due date.

The cases arose out of complaints whereby the federal government is seeking to recover alleged overcharges which it claims the railroads assessed on its shipments of various commodities during World War II. At the May 9 hearing, Commissioners Mahaffie and Rogers and Examiners Boat and Hosmer were on the bench.

The session was a further hearing for the purpose of receiving from the

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1948
8 UNITS
1949
7 UNITS
1950
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Department of Justice the government's rebuttal evidence in 12 of the 17 cases. Some supplemental evidence was also offered by the railroads. The principal presentations of the railroads were made at a series of hearings held last January (*Railway Age* of January 29, page 47). The government's rebuttal evidence consisted of more than 25 statements prepared by members of the Justice Department's transportation staff.

The 12 cases include the complaint assailing charges paid by the former United States Maritime Commission on shipments of iron and steel articles from Minnequa, Colo., to destinations on the Pacific Coast; the complaint assailing tariff regulations and practices under which crated automobiles moving from origins in Central Freight Association Territory to Gulf and South Atlantic ports for export were denied commodity rates applicable to "boxed" automobiles; and the complaint assailing charges paid on shipments of materials and supplies which were stored in transit at Marietta, Pa., and Guilderland Centre, N. Y.

The other nine cases involve complaints assailing charges paid by the government on transcontinental shipments of combat vehicles, wooden pallets, tents and tarpaulin, bomb-cluster adapters, woolen blankets, ammunition and explosives, small-arms ammunition, airplanes and airplane parts, and steel ammunition links and cartridge clips.

The remaining five proceedings, which were not involved in last week's hearing, arose out of complaints assailing charges paid by the government on export freight stopped at storage-in-transit depots; charges paid as a result of the application of railroad "policing" rules to government shipments moving to Pacific Coast ports for export; and charges paid by the government on its wartime shipments of soldiers' pack-carrier cases, aluminum airplane landing mats, and steel airplane landing mats. Public hearings in these five cases were concluded more than a year ago (*Railway Age* of March 25, 1950, page 64).

Defense Department Officers Go to School

A three-day loss and damage prevention session, sponsored by the Department of Defense in cooperation with the Association of American Railroads, was held at the New York Port of Embarkation in Brooklyn, May 7-9. More than 100 attendants, including both military and civilian personnel of the armed services were present to hear representatives of the A.A.R.'s Freight Loading and Container Section, Mechanical Division and Bureau of Explosives discuss loading and bracing techniques.

Among high military officers at the opening session were the commanding general of the port, Brig. Gen. E. H. Lastayo; Maj. Gen. F. A. Heileman, Army chief of transportation; Col. A. G. Viney, deputy director of the military traffic service; Lt. Col. M. A. Hoard, of the General Traffic Branch, office of Chief of Transportation; and Col. W. W. Preisch, transportation officer of the N.Y.P.E., who was in charge of arrangements. After welcoming remarks by Gen. Lastayo, Gen. Heileman and Col. Hoard told what the Department of Defense hoped to gain from these schools (several of which already have been held at other places around the country) and Col. Viney explained the set-up of M. T. S.

According to Col. Hoard, with the exception of work on loading of vehicles which was recently covered in Mechanical Division supplement No. 2 to the loading rules, all material to be covered in the school was more in the nature of a review than anything else. With this material fresh in their minds those in attendance would be expected to return to their posts and conduct similar seminars for the people (particularly civilian employees) who handle loading and bracing functions at their posts.

The first speaker from the A.A.R. group was Burton Williams, loading rules supervisor of the Freight Loading and Container Section. Mr. Williams explained the set-up of the A.A.R., especially as regards promulgation of loading rules. He stressed that rules set up by the Mechanical Division are mandatory while those of the Freight Loading and Container Section are recommendatory only. Following Mr. Williams was E. J. Dahill, chief engineer of the F. L. & C. Section, who showed drawings and photos of different types of freight cars and explained their characteristics. Others who spoke were J. H. Campbell, supervisor of loading, Mechanical Division, who discussed loading of open-top equipment, and L. C. J. White, inspector, Bureau of Explosives, who spoke on loading of explosives and other dangerous articles.

On the second and third days of the seminar other A.A.R. men on the program were F. C. Dansereau, east coast engineer of the F. L. & C. Section, and V. S Boomer, engineer from the same organization They discussed such subjects as loading of bagged materials and mixed type loads, empty projectiles, palletized commodities, cylindrical containers, etc.

Included in the programs of the seminar for the second and third days were two New York Central films, one of them being the recently released "It's A Deal," and the older "Freight Yard Operation." The former has as its subject the handling and loading of l.c.l. freight, while the latter portrays operation of a hump yard equipped with retarders. Also shown was an Army film on closed car loading.

The same general type of program was held later in the week at Bolling Field, Washington, D. C., with essentially the same army and railroad personnel participating.

CAR SURPLUSES, SHORTAGES

Average daily freight car surpluses and shortages for the week ended May 5 were announced by the Association of American Railroads on May 10 as follows:

	Surplus	Shortage
Plain Box	472	4,421
Auto Box	9	124
Total Box	481	4,545
Gondola	425	2,971
Hopper	5	1,040
Covered Hopper	0	47
Stock	996	68
Flat	0	1,053
Refrigerator	6,750	0
Other	284	14
Total	8,941	9,738

Industry Committee Tells N.P.A. of Parts Shortages

The Locomotive Builders Industry Advisory Committee has advised the National Production Authority that the present supply of locomotive spare parts is "extremely tight," according to a May 8 announcement by N.P.A.

The committee reported that "hundreds of steam locomotives" which are now unserviceable could be put into service if repair parts for them were available, N.P.A. said. It noted that shortages of steel and high-grade bronze are causing this short supply of parts.

N.P.A. held its first meeting with the newly formed advisory committee on May 8. At that time the agency said it told the committee it is "doing its best" to remedy the parts shortage by giving increased interim relief until the Controlled Materials Plan goes into effect July 1.

In reporting on its meeting with the committee, N.P.A. also announced that the substitution of boron for molybdenum, a scarce metal, has proved so satisfactory that boron-treated steel is being used in increasing amounts for making driving mechanisms of locomotives, including gears, pinions and shafts.

Western Roads Oppose Shift in Break Points

Western railroads have entered the North-South conflict over divisions of interterritorial freight rates. In a brief filed with the Interstate Commerce Commission, the Western roads said that insofar as they participate in the movement of traffic between Official and Southwestern Territories they are concerned with certain of the Eastern roads' proposals.

"The Eastern lines proposal (as to changes in primary divisional break points over Mississippi River crossings between East St. Louis, Ill., and East

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Dubuque) is nothing more than a device to secure additional revenue and no adequate reasons have been advanced which should influence the commission to become a party to such a scheme," the Western carriers said.

The Western roads went on to explain their position. They said primary break points should remain as they are today, and the divisions applying over the upper Mississippi River crossings should be the same as those applying via East St. Louis, Ill. As to present primary divisions on this traffic, the Western lines said they are taking no position at this time.

This expression of views by the Western roads was in the proceedings wherein Eastern carriers have asked the I.C.C. for modification of present divisional bases on traffic between Official Territory and Southern and Southwestern Territories. The proceedings are docketed as No. 29885 and No. 29886, and Eastern roads are claiming that present divisions on North-South traffic are "grossly unfair." (*Railway Age*, May 7, page 56).

Western Roads Increase Some Round-Trip Fares

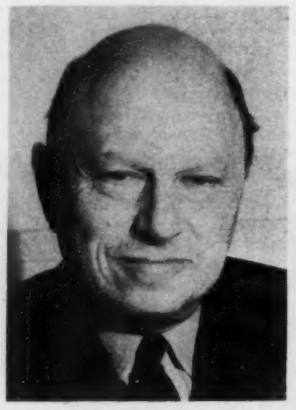
On and after June 1, the western railroads plan to increase certain of their present round-trip transcontinental first-class and coach fares by approximately 10 per cent. One-way fares will not be affected, but all round-trip fares to or from Chicago, St. Louis, Memphis, Vicksburg and New Orleans (or points east) on the one hand, and points in California on the other, will be increased. Fares between intermediate points east of California, or between the gateways mentioned and the Pacific Northwest are not involved.

In explaining the increase, E. B. Padrick, chairman of the Transcontinental Passenger Association, pointed out that the existing round-trip fares between the eastern gateways and points in California date back to a summer excursion fare in effect during the early thirties, which offered an exceptionally wide diversity of routes. Although tariffs have been changed since, the present fares are still on an excursion basis and are lower than the basic-round trip fares authorized by the Interstate Commerce Commission for use in the Western region. These excursion fares are being increased by 10 per cent, up to the limit of the basic round-trip fares. Complete diversity of routing will still apply. After the increase, many of the round-trip fares will still be at a rate per mile lower than basic round-trip fares.

British Railway Head Studying American Roads

John Elliot, recently appointed chairman of the British Railway Executive, is in this country for about two weeks, to make a personal study of the regional organizations of some of the larger American railroads. While here, he plans to confer with Gustav Metzman, Walter S. Franklin, Roy B. White and Fred G. Gurley, presidents, respectively, of the New York Central, the Pennsylvania, the Baltimore & Ohio and the Santa Fe, and possibly with other top-ranking railway officers.

At a press conference in New York, immediately after his arrival in this country, Mr. Elliot explained that the nationalized British railways have been criticized for having a too highly centralized organization, and for not vesting enough authority in the heads of their six operating regions. His purpose here is to study at first-hand the degree of centralization—or of regional autonomy—on some of the larger American railroads having regional set-ups.



John Elliot

At the same conference, Mr. Elliot and T. D. Slattery, resident vice-president and general traffic manager at New York for the Associated British and Irish Railways, outlined improvements in passenger service which the British railways are making for the heavy summer and tourist travel anticipated this year because of celebrations being held at various points throughout the next few months in connection with the Festival of Britain.

Mr. Elliot also stated that British Railways, this year, would probably fall from four to five million pounds short of earning the £37 million needed to pay dividnds on their 3 per cent guaranteed stock. Unless the government is to pay the difference, he added, "the price of transport must be raised or economies must be effected."

AT THE PANEL DISCUSSION on transportation, held at Washington, D. C., on May 1, as part of the annual meeting of the Chamber of Commerce of the United States (*Railway Age*, May 7, page 58)— left to right, at the head table, Leland James, president of American Trucking Associations, Inc., and of Consolidated Freightways, Inc.; John Slater, president of American Export Lines, Inc.; Ralph Damon, president of Trans World Airline, Inc.; Delos W. Rentzel, Under Secretary of Commerce for Transportation and chairman of the Committee on Defense Transportation and Storage of the Office of Defense Mobilization; Evans A. Nash, chairman of the chamber's Transportation and Communications Committee, and transportation consultant at Oklahoma City, Okla.; A. G. Anderson, president of the National Industrial Traffic League and general traffic manager of the Socony-Vacuum Oil Company; Col. Robert S. Macfarlane, president of the Northern Pacific; and R. W. Budd, president of the Great Lakes Greyhound Lines

Barriger to Deliver Wright Lecture at Minneapolis

John W. Barriger, president of the Monon, will give the "Roy V. Wright" lecture at the Minneapolis fall meeting of the American Society of Mechanical Engineers on September 27. This will be the fourth in this series of lectures, which have been arranged in memory of Mr. Wright, late managing editor of *Railway Age*, commemorating his persistent labors over many years in the direction of interesting engineers in more active participation in politics and other civic affairs.

The first lecture in the series was delivered at the 1949 annual meeting

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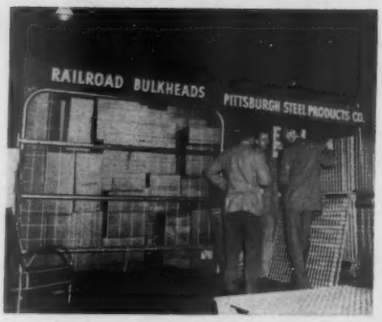
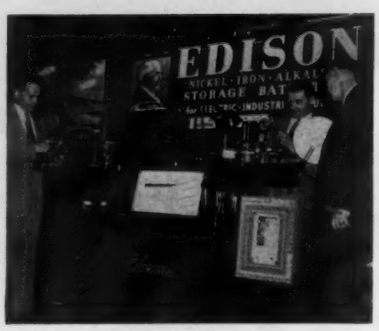
of the A.S.M.E. in New York, by Chief Justice Arthur Vanderbilt of the Supreme Court of New Jersey. The text of this address was published in the November 1950 issue of Mechanical Engineering, the A.S.M.E.'s official journal. The second lecture was given by Frank H. Neely on the subject "The Engineer — How He May Widen His Avenues in Public Service" at the Atlanta spring meeting in April 1951. The third lecture will be given at the Toronto semiannual meeting in June 1951 by Dr. C. J. Mackenzie, chairman of the National Research Council (Canada). Still another lecture in the series is planned for the annual meeting of the society in Atlantic City in November.





Fourth Materials Handling Show

The fourth National Materials Handling Exposition closed at Chicago on May 4 after a five-day run that attracted a record crowd of 23,000. The exposition was held in the International Amphitheatre, and conference sessions, sponsored by the American Materials Handling Society, were concurrently held in the adjoining Stock Yards Inn. Neither the exposition nor the conference sessions were open to the general public.

Of principal interest to railroads was the conference session on the afternoon of May 3, devoted to receiving and shipping methods of rail, air, truck and marine transportation and what the materials handling engineer can do to reduce damage, speed handling and cut shipping costs for each. Ken W. Frase, project engineer for P. W. Voss & Associates, Chicago, and a director of the Midwest Materials Handling Society, acted as chairman.

In opening the session, Mr. Frase lashed out at "the obsolete methods we employ to ship things from one plant to another," which he characterized as a "major economic tragedy." He said that "only three things stand between us and universal unit loading for interplant shipments as well as for use within plants — excessive transportation rates for pallets and skids, the reluctance of common carriers of all types to handle unit loads and the absence of pallet pools."

"Freight rates," he continued, "definitely should be lower for pallets, skids and similar vehicles. These

K. W. Frase urged pallet pool

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should not be charged for at commodity rates. I agree that shipments of pallets should not be free. But the rate can be cut plenty."

Pointing out that carriers could make money by "equipping themselves for good handling," Mr. Frase said "it has been estimated that mechanical handling can cut turn-around time of freight cars in half. In effect, this could double the nation's available rolling stock — just about eliminating the shortage of railroad freight cars. And think of what that would mean to a railroad — double use from present rolling stock. How can they afford to overlook the opportunity for added profit?"

Mr. Frase also criticized the "millions of dollars of waste because we throw away pallets, skids, etc. It would not happen if we had pallet pools." Such pools, he said, would bring costs down so the problem of shipping empty pallets beyond 300 miles would no longer exist. "Railroad cars are controlled and shared, so why not pallets, which are a means of transportation too?" He suggested that a pallet pool, if started by the federal government, would "pay huge dividends to the nation's economy" and the government "would get its money back a lot more quickly than from most of the things it's investing in now."

"Mr. Perfect Shipping"

Albert L. Green, special representative of the Freight Claim Division of the Association of American Railroads, told the session of the successful efforts of the railroads — through improvements to rolling stock, freight station equipment, packaging studies, employee training and mechanized handling — to reduce the industry's loss and damage bill.

Following Mr. Green on the program came representatives of truck, air and steamship lines, who, before giving their own talks, paused to pay tribute to the "unselfish and untiring" help they had each received from Mr. Green in meeting the particular problems of their own industry. Harry Chaddick, president of the National Defense Transportation Association, and president of Standard Freight Lines (a highway carrier), said "Al Green should properly be introduced as 'Mr. Perfect Shipping' as he has meant just that to all of us."

First Mechanically Refrigerated Milk Car

The first mechanically refrigerated milk car was demonstrated on May 3 to a group of railway officers and business paper and newspaper representatives at Bellows Falls, Vt. This car was the first of 11 to go into regular service on the Boston & Maine between Bellows Falls and Boston to handle bottled milk and cream from the Bellows Falls Cooperative Creamery for delivery to the First National Stores of the Boston area. The remaining 10 cars are scheduled to be ready for service by June 1.

Milk handling at Bellows Falls is unusual. The Bellows Falls Cooperative Creamery ships all its milk to the First National Stores and all milk is processed and bottled at the Bellows Falls plant by the producer. For the past few years the milk has been shipped in paper cartons; top icing is unsatisfactory because the paper cartons cannot take the ice load and ice drippings soil the paper containers. Therefore ice had to be cracked into small pieces and packed between the rows of wooden boxes in which the milk was carried. This required the service of one extra man. The producer's supply of natural ice was also unsatisfactory because it depended upon winter freezing conditions.

Refrigeration in each of the newly equipped cars is produced by one Thermo King unit manufactured by the U. S. Thermo Control Company, of Minneapolis. It is a duplicate of the units described in the December 23, 1950, *Railway Age* for test cars and for cars placed in service by the Fruit Growers Express. The unit consists of a 28-hp. gasoline engine, a six-cylinder compressor and a cooling coil, air circulating fan and automatic controls. Freon is the refrigerant. The unit has automatic controls and will maintain the milk cars at 35 deg. F. When required, heat may be furnished by the unit, as it operates also on the reverse-cycle or heat-pump principle. The unit is constructed so that it can be removed and a replacement installed in approximately 10 minutes.

These cars have only one unit—the Fruit Growers Express cars have two—because the cars are in controlled service, making the 115-mile run to Somerville, Mass., where the milk is transferred to trucks for store delivery, in a maximum of five hours elapsed time. No standby unit was considered necessary for protection in case of failure of the unit because of the short run and the good insulation of the cars.

The cars are the same milk cars that were used in this service prior to their conversion to mechanical refrigeration. Changes in the car and installation of the equipment were made at the Concord, N. H., shops of the B. & M. under supervision of the Walsh Body & Trailer Corp., Boston, New England representative of the U. S. Thermo Control Co. The refrigerating units were purchased by the creamery.

AT BELLOWS FALLS, VT., inspecting the first milk car to be equipped with mechanical refrigeration, are, left to right, T. G. Sughrue, executive vice-president, J. J. Sullivan, milk agent, and J. W. Fitzgibbon, manager, milk traffic department, all of the Boston & Maine, and Ralph W. Porter, executive vice-president of the U. S. Thermo Control Company

Senate Group Plans Study Of Affairs on New Haven

Information so far gathered "very definitely warrants further investigation" of affairs on the New York, New Haven & Hartford, according to Senator McMahon, Democrat, Connecticut.

Senator McMahon, who heads a Senate subcommittee on New England Power and Transportation Problems, made this statement as he announced that public hearings will begin May 28 in connection with the subcommittee's investigation of the New Haven.

"We hope to establish for the gen-

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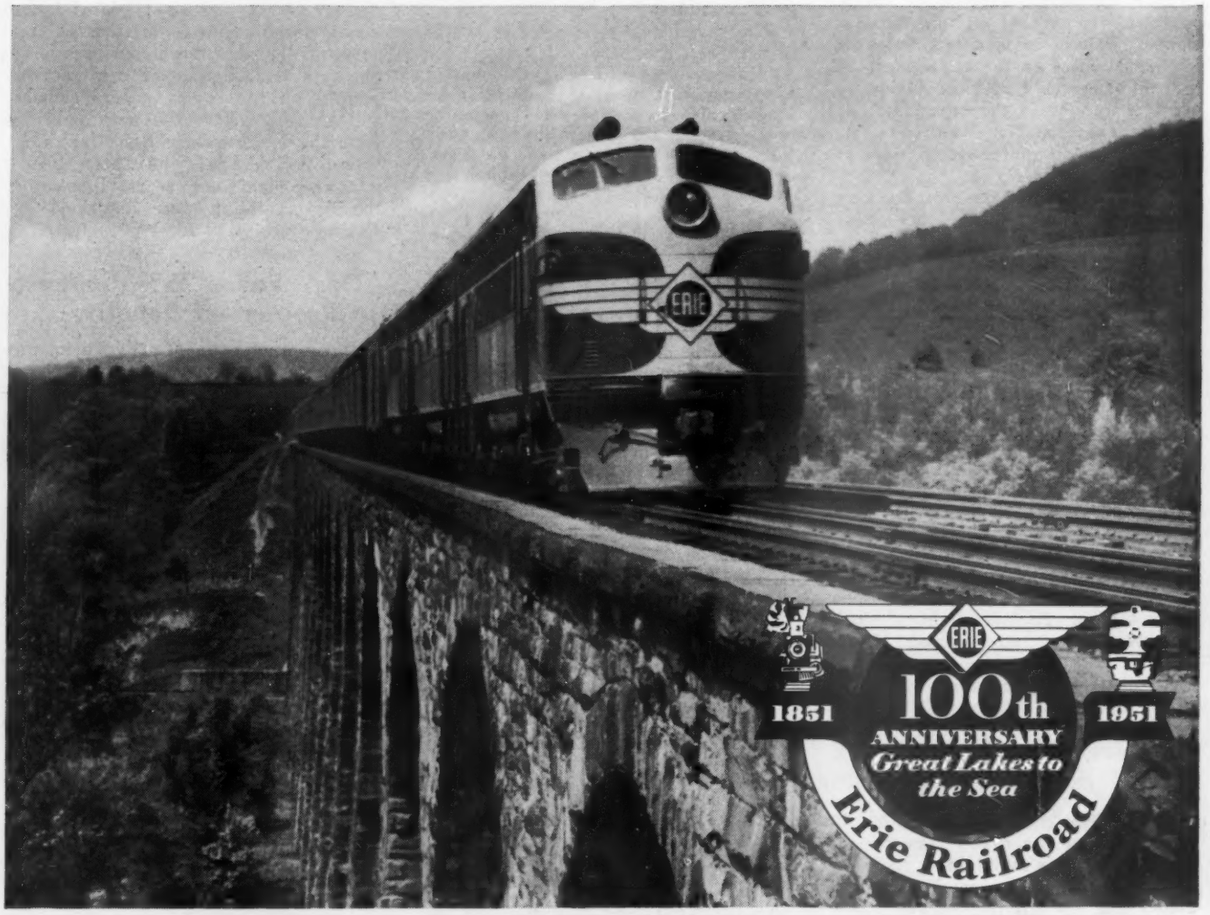

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TRUCKERS ATTACK RR MATERIAL ALLOCATIONS

Dave Beck, executive vice-president of the International Brotherhood of Teamsters, has become chairman of the so-called Trucking Industry National Defense Committee—the outfit which published recent advertisements demanding allocation of more materials for trucks, based on the allegation that the railroads would be knocked out in event of war, hence the argument that truckers are "the No. 1 carrier offering the greatest protection in time of national emergency."

A press hand-out from this Trucking Industry National Defense Committee emanates from Jay Scott and Benjamin Sonnenberg of 247 Park avenue, New York, and says that the committee represents "all segments of trucking—truckers, equipment manufacturers and labor." It characterizes its recent advertising (discussed in an editorial in this issue) as only the "opening skirmish" in the warfare it plans to wage.

eral public, the railroad's employees and the minority stockholders, a true picture of the condition of the road," the senator said. He said the subcommittee has been engaged in gathering information on the road's operations "from a great variety of sources" since the investigation was started March 28.

At that time, Senator McMahon wrote Interstate Commerce Commission Chairman Splawn, requesting up-to-date information on financial and operating conditions of the New Haven.

The senator said he wanted to know whether the road's management "has been and is maintaining the road in a safe operating condition," and added that his group intended to find out "just what the situation is." (*Railway Age*, April 2, page 63.)

The subcommittee now has a "reasonably clear" picture of the New Haven but it must be filled in with information "which can be obtained only through personal testimony before committee hearings," Senator McMahon said in announcing the May 28 hearings.

Other members of the Senate group are Senators Tobey, Republican of New Hampshire, and Brewster, Republican of Maine. The subcommittee is a part of the Committee on Interstate and Foreign Commerce.

Knudson Foresees Transport Regulations

Some restrictions and regulations designed to effectuate the government's transportation planning during the present emergency must be expected, James K. Knudson, administrator of the Defense Transport Administration, told the 30th annual conference of the traffic group of the National Retail Dry Goods Association in the Hotel Statler, New York, on May 8. "Shippers and carriers most likely will find these restrictions annoying, even burdensome, but there exists no doubt in our minds at D.T.A. that we can fully count upon the loyal support and cooperation of both to do the transport job," he added.

The government recognized in World War II, Mr. Knudson said:

"Just as it recognizes in the present emergency, that there is nowhere a more capable managerial group to handle the transportation lines than the men who have made transportation their life work. Individual initiative, private capital, the competitive spirit—so reasoned the government—had made the transportation industry great. Therefore, individual initiative, private capital, the competitive spirit could best do the emergency job. A minimum of government interference with the operating job; a maximum of voluntary effort and cooperation, these were the watchwords in the days of the Office of Defense Transportation and they are the watchwords today. . . Implicit in this conception is this awareness: It is beyond the compass of any one man, or any one group of men, to hold down the job of traffic manager for this nation. . . The failure of wartime government supervision in World War I showed us that. O.D.T., therefore, simply stood by, maintaining a close watch over the complete transport picture and utilizing its power, staff and ingenuity to smooth out bottlenecks and see that there was no bog-down. Meanwhile, it used its authority as claimant agency to get the transport lines the manpower and materials they had to have to keep the wheels rolling."

In setting up D.T.A., he continued, the same basic concept has been followed:

"The least possible interference with normal industry and life; as few regulations and restrictions as possible; assisting the transport agencies, each under its own management, to obtain the manpower and materials to do the emergency job; coordinating the efforts of all to the prime objective of the defense effort and ultimate peace. Should the plan not work out, of course, stricter regulations will undoubtedly be imposed, but we at D.T.A. have no fear but that it will definitely work out. We know we can depend on the transportation industry to cooperate to the fullest extent necessary."

Mr. Knudson told his audience that, during the present emergency, the retail dry goods industry may find it necessary to work a six-day week, "or even round the clock," to avoid restricting delivery of l.c.l. freight to certain days or certain hours of the day.

"Remember that anything which operates to eliminate delay and speed up the unloading, loading and turnaround of cars is a patriotic step in the right direction. Therefore, look after your shipping and receiving platforms and be certain that trucks pick up and deliver promptly. I don't have to tell you that pick-up and delivery is a matter of ever-increasing expense—in some cases expense to shipper and railroader alike. Much of the delay in pick-up and delivery occurs at shipping and consignees' facilities. It is to everyone's interest, on a simple service-and-cost basis, to reduce delays wherever possible—to do whatever he can to expedite loading and unloading."

M. & St. L. to Dedicate New Office Building

The new general office building of the Minneapolis & St. Louis at 111 East Franklin avenue, Minneapolis, will be formally dedicated on May 15. The $1-million structure was begun slightly over a year ago. It is of functional design and is located at the edge of the downtown business section. As final details of construction permit, all the road's general offices will be removed to the new building from the Northwestern Bank building, where the M.&St.L. has been headquartered for some years. Plans for the new building were described by *Railway Age*, May 13, 1950, page 67.

"Ops" Favor 25% Increase In Retirement Benefits

David B. Robertson, president of the Brotherhood of Locomotive Firemen & Enginemen, said last week the operating brotherhoods favor Railroad Retirement Act amendments which will provide an even 25 per cent increase in benefits to retired railroad employees.

The "ops" do not favor an increase in the existing retirement tax rates or in the taxable monthly compensation, Mr. Robertson said. Nor do they favor a partial merger of the railroad retirement system with the general social security system, as advocated by the "non-ops."

Mr. Robertson appeared before the Senate Labor and Public Welfare subcommittee, headed by Senator Douglas, Democrat of Illinois. That group is studying various proposals for amending the retirement act. Among these proposals are the bills, S. 1347, sponsored by the "non-ops," and S. 1353, sponsored by the operating brotherhoods.

In S. 1347 the "non-ops" urge increased monthly benefits for both retired railroad employees and survivors. They recommend increasing the taxable monthly compensation from $300 to $400, and ask that employees with less than 10 years service have such service credited under the Social Security Act, rather than railroad retirement. *(Railway Age*, May 7, page 72).

Analyzing the so-called "op" bill, S. 1353, Mr. Robertson said the high cost of living has made necessary an increase in monthly benefits. He said retired employees are entitled to first claim, however, with survivor's benefits being increased only after these employees have received their full 25 per cent.

The B.L.F.&E. president said the operating brotherhoods would yield on this 25 per cent increase for retired employees only if it were proven necessary in order to maintain the retirement system on a sound financial basis at presently provided tax rates on current taxable maximum.

Mr. Robertson said the "non-op"

(Continued on page 105)

Congratulations and Best Wishes

to The ERIE on Their 100th Anniversary

General Steel Castings pays tribute to the Erie Railroad on their beginning a second century of "serving the heart of industrial America."

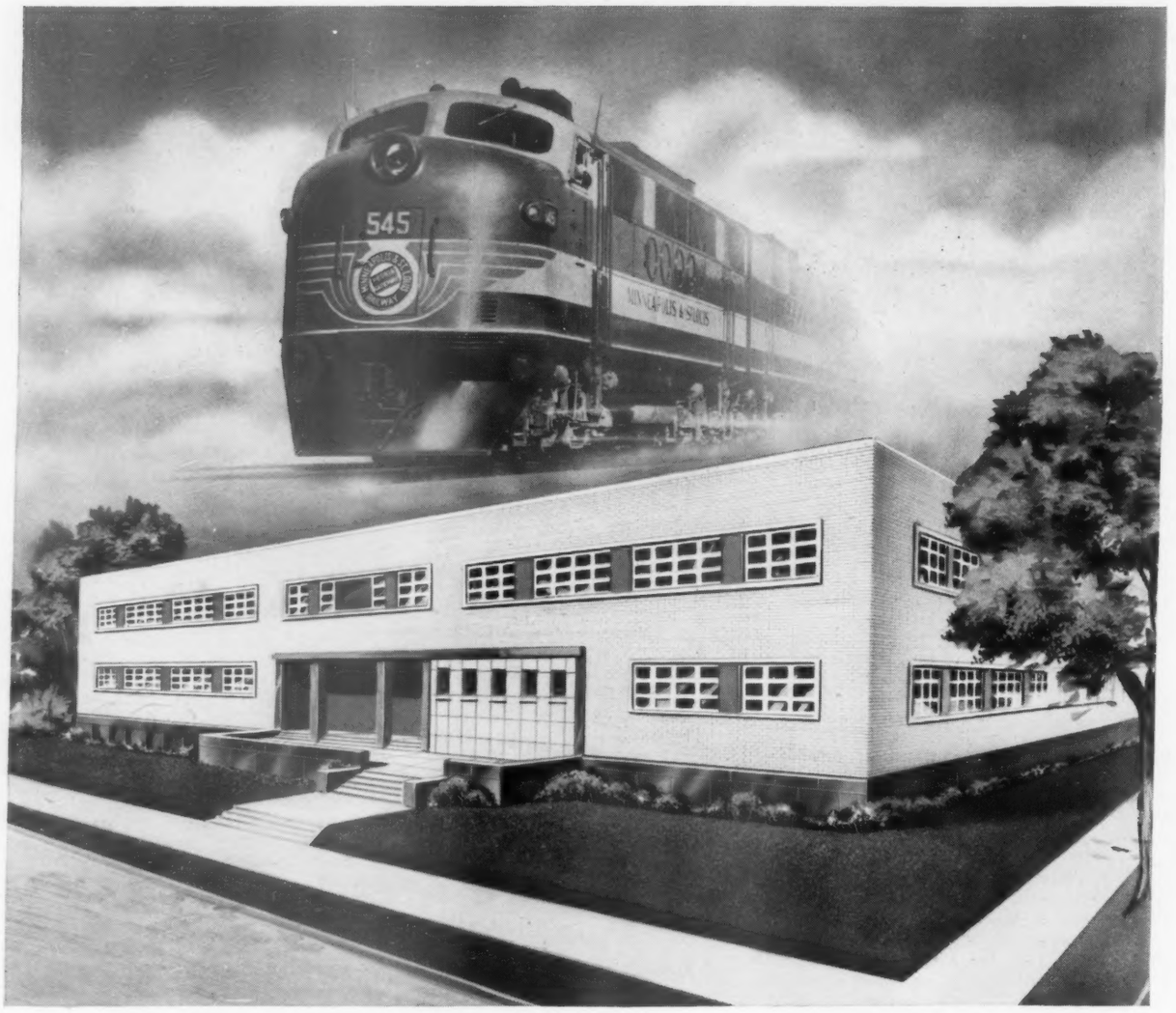
Commonwealth Cast Steel Products have for half a century served the Erie on locomotives, passenger cars and freight cars, contributing much toward increased life of equipment, lower maintenance costs, and greater safety of train operation.

It has been a privilege to play a part in the Erie's long record of progressive railroading.

Long live the Erie!

GENERAL STEEL CASTINGS

Granite City, Illinois — Eddystone, Pennsylvania



Modern Offices for a Modern Railway..... *the M. & St. L.*

Read
"MILEPOSTS on the PRAIRIE"
The Story of the Minneapolis & St. Louis Railway. A Great New Railroad Book by Frank P. Donovan, Jr. $4.50. At Your Bookstore or Simmons-Boardman Publishing Corp., 30 Church Street, New York 7, N. Y.

GENERAL OFFICES of the Minneapolis & St. Louis Railway are now in its New Headquarters Building in Minneapolis, at 111 East Franklin Avenue.

Streamlined for efficiency, like the Fast Freight Service of the M. & St. L., this Modern Building stands as a monument to Progress of the Railway, of the City where it had its beginning in 1871 and of the Great Midwest territory which it has served through the 80 Years.

The New Building was erected near the edge of the Minneapolis retail and financial district, for exclusive use of the 300 Officials and General Office Employes of the Minneapolis & St. Louis Railway.

THE MINNEAPOLIS & ST. LOUIS RAILWAY CO. PEORIA GATEWAY

The **Minneapolis & St. Louis** *Railway*

New Address: 111 East Franklin Avenue, Minneapolis 4, Minnesota • New Telephone Number: Main 7144

(Continued from page 102)
plan would raise employee annuities only 13.8 per cent, and would give an equal increase in benefits to survivors. He insisted that employes are due "first consideration and immediate relief."

As to changes in the relationship between railroad retirement and social security, Mr. Robertson suggested that a joint House-Senate committee be set up to study the matter. He said he felt sure Congress would not wish to make any changes apart from a complete study.

Thomas Stack, president of the National Railroad Pension Forum, was among other witnesses appearing before the subcommittee. Mr. Stack charged the present retirement act with having an "obsolete shroud," and said it has "completely broken down." He said the forum agrees with the "op" bill on the 25 per cent increase in benefits but disagrees on the matter of retirement age. He said employees with 30 years of service should be eligible to retire with full benefits at 60.

McCorkle Joins M.T.S.

Jesse B. McCorkle, retired general freight agent of the Pennsylvania, has joined the staff of the Department of Defense's Military Traffic Service. He will serve as consultant on railroad traffic matters.

Rentzel Assumes Transport Post

Delos W. Rentzel took his oath of office May 7 as the under secretary of commerce for transportation. He succeeds Major General Philip B. Fleming who has been appointd ambassador to Costa Rica.

For the past seven months, Mr. Rentzel has been chairman of the Civil Aeronautics Board. Prior to that time he was administrator of the Civil Aeronautics Administration. President Truman appointed him to the under secretaryship of commerce, and the appointment was confirmed by the Senate on April 17.

Roads Want Diner Food Prices Exempt from Freeze

The Office of Price Stabilization has "under advisement and study" a petition filed by the Association of American Railroads for exemption of dining-car service from price control under the O.P.S. Restaurant Regulation. The latter is Ceiling Price Regulation 11.

It requires restaurant prices to reflect the same food costs per dollar of sales as prevailed in the base period—the calendar year 1949 or the 12 months preceding the outbreak of the war in Korea. The A.A.R., petition pointed out that dining-car services are generally operated at a loss; and it estimated that operation under the regulation would increase such losses by about 10 per cent.

Freight Car Loadings

Loadings of revenue freight in the week ended May 5 totaled 803,337 cars, the Association of American Railroads announced on May 10. This was a decrease of 21,325 cars, or 2.6 per cent, compared with the previous week; an increase of 59,341 cars, or 8.0 per cent, compared with the corresponding week last year; and an increase of 35,010 cars, or 4.6 per cent, compared with the equivalent 1949 week.

Loadings of revenue freight for the week ended April 28 totaled 824,662 cars; the summary for that week, as

ERIE REENACTS INAUGURAL RUN

As the high spot of its centennial celebration, the Erie is reenacting, on May 14 and 15, the inaugural journey—which took place on the same dates 100 years ago—over the original 446-mile line of its predecessor, the New York & Erie, from Piermont, N. Y., to Dunkirk. Guests will include Erie officers and directors, press and radio representatives, and a number of Erie "east-end" on-line shippers.

The reenactment will follow the original run as closely as possible, in both schedule and equipment. The party will travel from the Erie's Duane Street Pier 20 in New York to Piermont on a steamer rechristened "Erie" for the occasion; while from Piermont to Suffern the train will consist of 10 cabooses, the old-time 4-4-0 steam locomotive "William Mason," an old baggage car and coach, and the "Daniel Webster flat car." At Suffern, eight of the 10 cabooses will be replaced with modern lounge and dining cars. Out of deference to schedule, however, the train will be hauled by a strictly modern E-8 diesel; while the old-time cars will be on modern flat cars rather than their own wheels.

A civic banquet and overnight stop at Elmira's Mark Twain Hotel will closely copy the festivities at that point on May 14, 1851; while a parade and barbecue at Dunkirk on the following evening will likewise duplicate as nearly as possible that city's welcome to the original train 100 years ago. At other scheduled stops there will be brief addresses by Erie President Paul W. Johnston, by local civic and business leaders and by "Daniel Webster"—reincarnated for the occasion in the person of Actor Dallas Boyd (see illustration). One strictly modern note will be a preview tour, at Corning, of the Corning Glass Works' new exhibition building.

The schedule for the run is as follows:

Monday, May 14	Arrive	Depart
Duane street, New York	....	8:00 a.m.
Piermont	10:00 a.m.	10:30 a.m.
Suffern	11:20 a.m.	11:45 a.m.
Middletown	12:35 p.m.	12:45 p.m.
Port Jervis	1:15 p.m.	1:35 p.m.
Deposit	3:50 p.m.	4:10 p.m.
Susquehanna, Pa.	4:40 p.m.	4:50 p.m.
Binghamton	5:20 p.m.	5:40 p.m.
Elmira	7:00 p.m.	....
Tuesday, May 15		
Elmira	....	10:00 a.m.
Corning	10:25 a.m.	11:55 a.m.
Hornell	12:50 p.m.	1:15 p.m.
Wellsville	1:50 p.m.	2:00 p.m.
Olean	2:50 p.m.	3:00 p.m.
Salamanca	3:25 p.m.	3:55 p.m.
Dunkirk	6:00 p.m.	....

compiled by the Car Service Division, A.A.R., follows.

REVENUE FREIGHT CAR LOADINGS
For the week ended Saturday, April 28

District	1951	1950	1949
Eastern	144,911	139,624	143,947
Allegheny	170,507	156,913	170,921
Pocahontas	63,419	62,056	66,005
Southern	131,241	125,534	118,422
Northwestern	131,378	85,229	119,198
Central Western	122,105	117,095	111,376
Southwestern	61,101	58,844	55,575
Total Western Districts	314,584	261,168	286,149
Total All Roads	824,662	745,295	785,444
Commodities:			
Grain and grain products	49,711	44,068	45,002
Livestock	9,888	9,788	10,962
Coal	143,314	152,474	161,166
Coke	16,255	14,391	14,354
Forest products	49,232	42,467	38,291
Ore	78,422	26,042	71,621
Merchandise l.c.l	79,894	84,974	93,681
Miscellaneous	397,946	371,091	350,367
April 28	824,662	745,295	785,444
April 21	809,520	722,688	769,347
April 14	777,989	707,385	765,943
April 7	739,523	700,049	757,784
March 31	755,435	720,404	725,623
Cumulative total 17 weeks	12,645,900	10,999,422	12,034,829

In Canada.—Carloadings for the week ended April 28 totaled 83,823 cars, compared with 79,932 cars for the previous week, and 75,281 cars for the corresponding week last year, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
April 28, 1951	83,823	35,504
April 29, 1950	75,281	31,870
Cumulative totals for Canada:		
April 28, 1951	1,285,121	1,174,550
April 29, 1950	616,234	515,394

Aitchison Won't Sit In Ex Parte 175 Case

Interstate Commerce Commissioner Aitchison has been relieved as a member of the commission's Division 2 "in the making of the record and administrative handling" of the Ex Parte 175 case wherein the railroads are seeking a 15 per cent increase in freight rates. This was announced by I.C.C. Secretary W. P. Bartel in a May 7 notice which said that the action was taken by the commission upon the suggestion of Mr. Aitchison.

It was taken "because of present heavy work load due to unusual conditions," Mr. Bartel also said. He also noted that "for all other purposes," Division 2 "will be constituted as at present." The division members who will handle the Ex Parte 175 case are Chairman Splawn and Commissioners Mahaffie and Alldredge. Public hearings in the case were scheduled to open May 14 at Washington, D.C.

Philadelphia-Macon L.C.L. Pool Opposed By Southern

The plan of five roads to pool l.c.l. freight between Philadelphia, Pa., and Macon, Ga., has been criticized by the Southern, which claims the plan would be "detrimental" to itself and to the public.

The proposal is pending before the Interstate Commerce Commission and the Southern has been authorized to intervene in opposition. The five roads are the Pennsylvania; Richmond, Fredericksburg & Potomac; Atlantic Coast Line; Seaboard Air Line, and Central of Georgia.

As noted in *Railway Age* March 5, page 68, the plan provides that shipments originating at Philadelphia would move P.R.R. and R.F.&P. to Richmond. From there the A.C.L. and S.A.L. would alternate, from week to week, in delivering shipments on to the C. of G.

Stating its opposition to the plan, the Southern said it has a route over its own rails between Washington, D. C., and Macon, but the pooling arrangement would not permit it to handle any l.c.l. originating with the P.R.R. at Philadelphia and destined to Macon.

ORGANIZATIONS

The **Railway Business Women's Association of Metropolitan New York** will hold its next meeting on May 22, in Room 553, 466 Lexington Avenue, New York, at 6:30 p.m.

General Mark W. Clark, chief of Army Field Forces, will be the principal speaker at the fourth annual **Federation for Railway Progress** dinner, to be held at the Palmer House, Chicago, on May 24. The subject of his address will be "Railroads and Defense." Robert R. Young, founder and chairman of the federation, will present the federation's annual awards to the railroad industry.

The **New York Railroad Club** will hold its next meeting on May 17, at 8 p.m., in the auditorium of the Engineering Societies building, 33 West 39th Street, New York. Designated as "Purchases and Stores Night," the meeting will feature an address by W. H. Ruskaup, assistant general purchasing agent of the New York Central, on "Material Shortages and Controls on the Railroads" and a talk on "The Long and Short of Steel Supply" by Bennett S. Chapple, Jr., assistant executive vice-president, United States Steel Company.

The next rail fan trip on the New York, New Haven & Hartford and the New York, Ontario & Western, sponsored by the **Connecticut Valley Chapter, National Railway Historical Society,** will be held on May 20. The final destination of the trip will be Middletown, N. Y., with Poughkeepsie, N. Y., and Maybrook scheduled as the main stopping points.

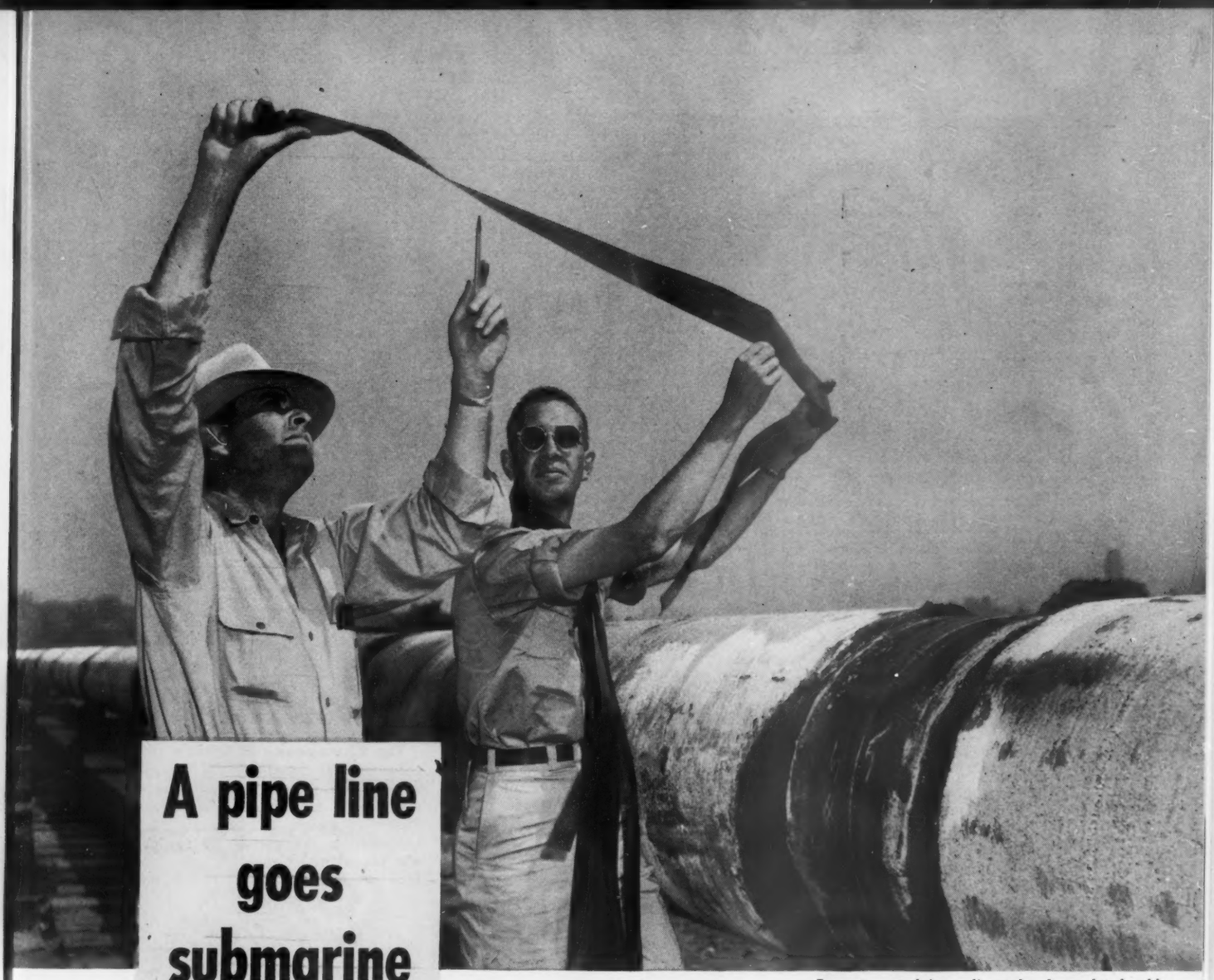
"ONE HUNDRED YEARS old and still young enough to learn," is the way J. M. Collins, superintendent of the Erie's dining car department, describes his railroad—and proves it by having his chefs take lessons from the Quaker Oats Company's Aunt Jemima. The emblem on the chef's jacket is the Erie's centennial herald, being used on stationery, in advertisements, in plaques, and as a lapel button for employees—some of whom facetiously call it their "hundred-year service button." It is illustrated on page 75

SUPPLY TRADE

National Malleable Plans 25% Expansion

The National Malleable & Steel Castings Co. is beginning a $6,300,000 expansion program which will increase its capacity by about 25 per cent, according to Cleve H. Pomeroy, president. All plants at Cleveland, Chicago, Indianapolis, Sharon, Pa., and Melrose Park, Ill., will share in the improvements, he added. The largest expenditures are planned for the Cleveland works, where an entire new malleable foundry unit will be added. Some equipment will be in operation by mid-year and all improvements should be completed by a year from now, Mr. Pomeroy said. It is not expected the program will require any new financing.

The **Westinghouse Air Brake Company** has established sales facilities in Canada for its air compressors and pneumatic control equipment. The **Canadian Westinghouse Company,** Hamilton, Ont., will handle the Westinghouse line of industrial air compressors and pneumatic controls for oil rigs, marine vessels and general industrial applications. Complete coverage for sales and service will be provided through district offices in



A pipe line goes submarine and Radiography proves each weld

Inspectors studying radiographs of completed welds in the 20-inch-diameter, 1⅛-inch-thick steel pipe.

NATURAL GAS from Texas makes its final plunge into New York City through a 4800-foot pipe line laid under the bed of the Hudson River. Each joint was welded. And with 450 lbs. p.s.i. inside and the pressure of silt and 90 feet of water outside, these welds had to be sound and set for a long life. To make sure, the contractor had radiographs made of every joint.

This is how Radiography helps do important jobs well. It puts a valuable O. K. on welds. It helps build reputations for consistently good work.

Wouldn't you like to know how it is helping to increase business and improve production for others? Your x-ray dealer will be glad to tell you. Get in touch with him.

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TRADE-MARK

John B. Keeler (above), vice-president of the Koppers Company and manager of the traffic and transportation department since 1947, has been appointed traffic and transportation consultant to represent the company in connection with various railroad and transportation activities. James F. Haley (below), former assistant manager of the traffic and transportation department, has been appointed manager to succeed Mr. Keeler. Announcement also has been made of the appointment of Erwin A. Gorges, formerly manager of the traffic section, as assistant manager of the traffic and transportation department to succeed Mr. Haley

Halifax, N. S.; Moncton, N. B.; Montreal, Que., Toronto, Swastika and Ft. William, Ont.; Winnipeg, Man.; Regina, Sask.; Edmonton and Calgary, Alta.; and Vancouver, B. C.

J. Milton Moon, formerly director of sales of the **Signode Steel Strapping Company,** has been elected vice-president.

Walter F. Schulten has been elected a vice-president of the **Pittsburgh Consolidation Coal Company.** He formerly was assistant to **J. B. Morrow,** who retired on April 9 as first vice-president. Also, **G. A. Shoemaker,** president of the Pittsburgh Coal Company division, has been elected a vice-president of the parent company; **Henry C. Rose,** vice-president of the division, has been elected president to succeed Mr. Shoemaker, and **J. M. Knowles,** coordinator of purchases, has been elected a vice-president of the parent company.

Mark M. Miller, formerly assistant sales manager of the Indianapolis, Ind., plant of the **National Malleable & Steel Castings Co.,** has been appointed sales manager of the plant and **John H. Murphy,** formerly a member of the sales department, has been appointed assistant sales manager. Mr. Miller is succeeding **A. L. McColloum,** who is retiring after more than 30 years of service with the company.

The **American Car & Foundry Co.** has merged the export traffic section of its sales department with the general traffic department. **S. F. McDermott** has been appointed assistant to traffic manager and also will continue to be in charge of export traffic, with headquarters as before at 30 Church street, New York.

Albert B. Diss, assistant to the executive vice-president of the **Watson-Stillman Company** since he joined the firm in November 1950, has been appointed manager of manufacturing operations, and will head all activities in the manufacturing, production, purchasing and sub-contracting departments.

EQUIPMENT AND SUPPLIES

FREIGHT CARS

8,274 Freight Cars Delivered in April

Freight cars delivered in April for domestic service totaled 8,274, an increase of 18 per cent above the March total of 7,011 cars and 41 per cent above February deliveries, according to a joint announcement of the American Railway Car Institute and the Association of American Railroads. Deliveries last month, the highest since June 1950, reflected increased receipt of steel through the government allocation program to increase rail transportation facilities, the announcement said. "Assuming that steel receipts in matched car sets continue, the 10,000-cars-a-month goal set by the Defense Transport Administration should be reached in the near future," it added.

Orders were placed in April for 6,228 freight cars for domestic use, bringing the backlog of cars on order on May 1 to 155,871. Since outbreak of hostilities in Korea, the announcement pointed out, railroads have ordered 175,950 new freight cars. A breakdown of cars ordered and delivered in April, and of cars on order on May 1, is given in the accompanying table.

	ORDERED	DELIVERED	UNDELIVERED
TYPE	April 1951	April 1951	May 1, 1951
Box—Plain	1,367	3,967	52,556
Box—Auto	....	254	1,830
Flat	16	209	3,866
Gondola	208	1,595	32,468
Hopper	3,538	1,249	40,156
Covered Hopper	285	265	4,932
Refrigerator	200	279	7,681
Stock	....	....	500
Tank	608	300	10,412
Caboose	6	38	511
Other	....	118	959
TOTAL	6,228	8,274	155,871
Carbuilders	1,776	5,781	109,024
Railroad Shops	4,452	2,493	46,847

The **Delaware & Hudson** has ordered 500 50-ton box cars and 500 50-ton hopper cars from the Pullman-Standard Car Manufacturing Company.

The **Spokane, Portland & Seattle** is inquiring for 500 40½-ft. 50-ton steel-sheathed wood-lined box cars.

LOCOMOTIVES

The **Chesapeake & Ohio's** recent order for 107 diesel-electric locomotive units (*Railway Age*, April 30, page 48), was placed entirely with the Electro-Motive Division of General Motors Corporation. No portion of the order was placed with General Motors Diesel, Ltd., as *Railway Age* was originally, and erroneously, informed.

The **Northern Pacific** will purchase 23 diesel-electric locomotive units for 1952 delivery. Included will be seven 1,200-hp. switching, four 1,500-hp. road-switching, one 1,500-hp. "B" freight and three 1,500-hp. passenger (two "A" and one "B") units, and two 4-unit 6,000-hp. freight locomotives.

The **Pennsylvania** shortly will order 132 additional diesel-electric locomotives costing approximately $45,000,000, Walter S. Franklin, president, said at the annual meeting of stockholders in Philadelphia on May 8.

The **Spokane, Portland & Seattle** has ordered five diesel-electric locomotive units at an approximate cost of $619,000. The Electro-Motive Division of General Motors Corporation will build three 1,200-hp. switching units, two for delivery in September and one in October; and the American Locomotive-General Electric Companies will construct two 1,600-hp. road-switching units for delivery in September.

The **Transportation Corps,** United States Army, has ordered 41 800-hp. diesel-electric switching locomotive units from the Electro-Motive Division of General Motors Corporation.

Salutations to ERIE

on 100 years of outstanding service to Our Nation

from the manufacturer of AMERICA'S QUALITY STEAM GENERATOR FOR TRAIN HEATING AND COMPARABLE SERVICES.

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Bankers Building, CHICAGO 3
Montreal, Canada, THE SUPERHEATER COMPANY, Ltd.
Representing AMERICAN THROTTLE COMPANY, INC.

SIGNALING

The **Pennsylvania** has ordered from the Union Switch & Signal Co. material to install interlocking facilities at County, N. J. In addition to the 5-ft. style C control machine, the order includes position-light signals, style A-5 electro-pneumatic switch machines, relays, rectifiers, transformers and housings. Field installation will be handled by railroad forces.

CAR SERVICE

Revised I.C.C. Service Order No. 876, effective May 7, supplanted Service Order No. 876 before the latter became effective. The order requires "heavy" loading of lumber and lumber products, and the revised version was issued to clarify various questions which arose with respect to the original version. As explained in a statement issued by the Defense Transportation Administration, the revised order applies to any carload shipment of lumber or lumber products, including mixed carloads with other commodities and cars stopped to complete loading. It provides that the car must be loaded to full visible capacity, but not to exceed the load limit. It also provides that the car, when leaving the stop-off point, must be loaded to the marked capacity in pounds as stenciled on the car or as shown in the official railroad equipment register. The order's expiration date is September 30.

ABANDONMENTS

Canadian National.—The Board of Transport Commissioners has authorized abandonment of the Port Hope, Ont.-Millbrook section, approximately 16 miles, of the C.N.'s Port Hope-Peterborough branch. Abandonment of the section was first applied for some 10 years ago, but was denied because of wartime conditions. At the latest hearing it was shown that the company is losing about $35,000 per year on the line, and that an expenditure of about $300,000 would be required to keep it in operation.

Canton & Carthage.—Division 4 of the I.C.C. has denied this road's application for authority to abandon its line between Lake City, Miss., and Carthage, approximately 22 miles. The division also denied authority to abandon operation of another 1.7 miles, between Carthage and McAfee, owned by the King Lumber Industries. The adverse report said application of the road's own method of estimating the results of operation indicates that traffic available "is sufficient to continue the line in operation without loss."

Chicago & North Western.—The I.C.C. has postponed for an indefinite time the effective date of its order authorizing this road to abandon its 17.8-mile line between Pelican Lake, Wis., and Crandon. (*Railway Age*, April 16, page 72.)

Tennessee & North Carolina.—The I.C.C. has reinstated the order authorizing this road to abandon its entire line. (*Railway Age* April 2, page 88.) The order was suspended after a petition for reconsideration was received from the Board of County Commissioners of Clay county, N. C. That petition has now been dismissed.

Division 4 of the I.C.C. has **authorized:**

RUTLAND.—To abandon operation of approximately 10.4 miles of line, owned by the Addison Railroad Company, between Whiting, Vt., and Larrabee's Point. The Addison was authorized to abandon the line.

CONSTRUCTION

New York Central Plans More Diesel Facilities

The New York Central will construct extensive facilities for servicing diesel-electric locomotives at Selkirk yard, its large freight-car classification center southwest of Albany, N. Y. Plans also have been announced for a new diesel maintenance shop and servicing facilities at Ashtabula, Ohio.

Facilities at Selkirk will include a fueling station with a 1,000,000-gal. storage tank; sanding equipment; a workshop for engine service crews; and a building providing living quarters for road enginemen and firemen. Storage tracks and a loop track for turning locomotives also will be constructed. Preliminary work of grading the site has been started and the project will be completed this year.

Work at Ashtabula, to begin shortly, will be in two stages. Part of the new shop will be built within the next year, just west of the present steam locomotive enginehouse. When dieselization of the area is completed, the steam enginehouse will be razed and the diesel facility completed. Plans call for the diesel shop to have three through tracks and five stub tracks. It will be equipped with overhead cranes and drop pits. The existing office and locker room facilities will be an integral part of the diesel shop. An oil separator and fuel and sanding stations will be installed. Fuel will be pumped from a 1,000,000-gal. oil storage tank to be located south of the tracks and west of the diesel shop. Some existing tracks will be removed and new ones installed. Eighty diesel locomotives will eventually be serviced in the new building.

Atchison, Topeka & Santa Fe.—In connection with a line change near Pauls Valley, Okla., a contract covering all necessary work has been awarded to Allhands & Briley, Dallas, Tex. The work of clearing and grading for a "shoo-fly" and other work in connection with a line change in the vicinity of Ruiz, N. M., has been awarded to Sharp & Fellows Contracting Co., Los Angeles. A contract covering grading for eight raises of grade of main track between Pierceville, Colo., and Lamar has been awarded to L. J. Hesser, Greeley, Colo.

Chicago, Rock Island & Pacific.—I.C.C. Examiner Paul C. Albus has recommended that Division 4 approve this road's plan for relocating its main line between Atlantic, Iowa, and Council Bluffs. This relocation would involve construction of approximately 33.9 miles of line between Atlantic and McClelland; acquisition of trackage rights over the Chicago Great Western from McClelland to Council Bluffs, and construction of a 1.9-mile connecting track between the C.R.I.& P. and the C.G.W. at Council Bluffs. Meanwhile, the Rock Island would be permitted to abandon two segments, 11.3 miles and 29.4 miles, respectively, of its present main line in this area. According to Rock Island engineers, the complete construction job would cost the road an estimated $7,350,327.

New York, New Haven & Hartford.—The following projects have been authorized at the indicated estimated costs: Install interlocking machine at Canton Junction, Mass. ($53,621); reconstruct end spans of bridge No. 6.51 at North Haven, Conn. ($60,000); replace battery charging facilities at Montowese, Conn. ($27,900); replace motor signal with searchlight signal at Cranston, R. I. ($21,690); and signal power supply and sectionalizing at Hebronville-Readville, Mass. ($21,160).

Raleigh-Rolesville. — The Seaboard Air Line and the Norfolk Southern will oppose this road's plan to construct a 15.5-mile line between Lassiter, N. C., and a point near Raleigh. (*Railway Age*, April 9, page 74.) The I.C.C. permitted the S.A.L. and N.S. to intervene in the case after receiving petitions charging that construction of the line would divert traffic and adversely affect revenues of the two roads. The N.S. said the new line would "for all practical purposes constitute an extension of the line of the Atlantic Coast Line from Lassiter to Raleigh."

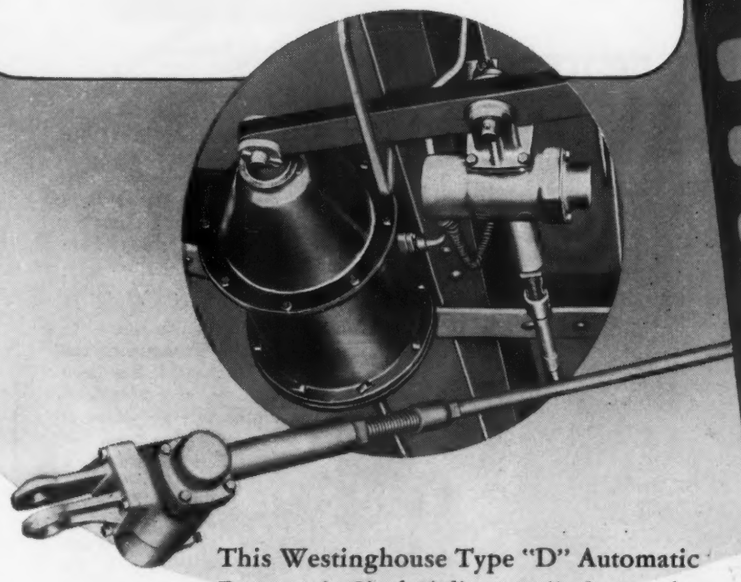
Willamina & Grand Ronde.—The I.C.C. has authorized this road to construct approximately 3.5 miles of

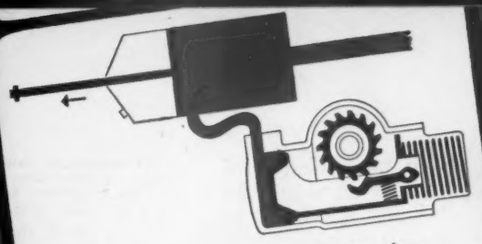
WESTINGHOUSE

Type "D"

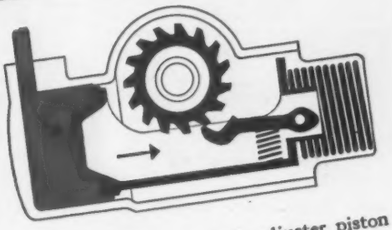
PNEUMATIC

Automatic Slack Adjuster

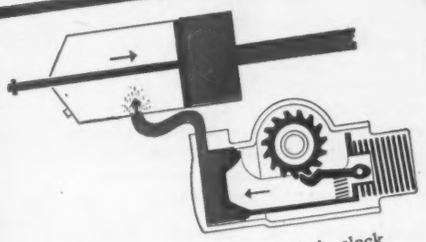




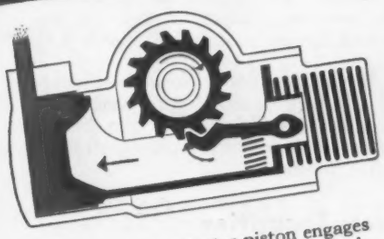
Excessive piston travel in air brake cylinder uncovers port, admits air to slack-adjuster cylinder.



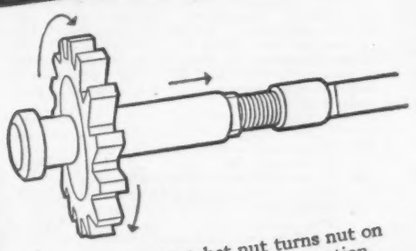
Air pressure moves slack adjuster piston back, compressing piston spring.



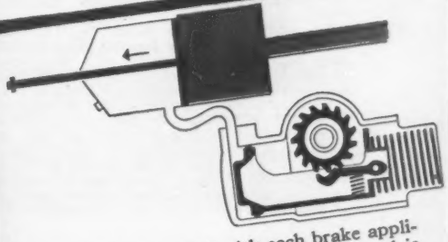
When brake is released, air in slack adjuster piston is vented. Piston spring returns slack adjuster piston.



Pawl on slack adjuster piston engages ratchet nut . . . advances it one notch.



Rotation of ratchet nut turns nut on tie rod, shortening the connection.



Process is repeated with each brake application until proper brake piston travel is established. No further action till brake-shoe wear calls for further adjustment.

This Westinghouse Type "D" Automatic Pneumatic Slack Adjuster eliminates the involved, time-consuming manual adjustment of rigging on cars in classification yards. Simple design (only half a dozen rugged parts) assures long, trouble-free service with minimum attention.

Brakes are Basic to Railroad Progress

Ask for Descriptive Leaflet No. 2468.

Westinghouse Air Brake Co.

WILMERDING, PA.

new trackage in Douglas county, Ore. (*Railway Age*, March 12, page 105.) The line will be used principally for movement of logs and lumber. The W. & G. R. estimates the cost of construction at $610,900.

FINANCIAL

Chicago, Milwaukee, St. Paul & Pacific.—*New Directors.*—At the first meeting of stockholders to be held (May 8) since this company was reorganized on December 1, 1945, holders of a majority of stock voted acceptance of management's proposals to increase the board of directors from the present 15 members to 19 and to elect directors in three classes for three-year terms expiring successively. Newly elected directors are R. J. Marony, consultant for the Milwaukee and former vice-president; J. W. Severs, vice-president; W. J. Sinek, president, City Products Corporation, Chicago; and J. P. Wagner, president, Boynton Company, Milwaukee.

Huntingdon & Broad Top Mountain. — *Reorganization.* — The I.C.C.'s Division 4 has approved payment of $4,000 a year to Glenn A. Troutman, trustee of this road. Mr. Troutman was appointed trustee by the court on January 22, and was approved by the commission March 9.

Rutland.—*New Director.*—Frederick H. Welling of North Bennington, Vt., has been elected to this road's board of directors to succeed Herbert Gates, resigned.

New Securities

Applications have been filed with the I.C.C. by:

CHESAPEAKE & OHIO.—To assume liability for $6,450,000 of equipment trust certificates, to finance in part 1,175 new freight cars and eight diesel-electric locomotives. Estimated total cost of this equipment is $8,130,615. The C.&O. pointed out that while it is financing only this much equipment at present, it has contracted to purchase a total of 2,000 freight cars and 26 diesel-electric locomotives. The present equipment is as follows:

	Description and Builder	Estimated Unit Cost
655	70-ton hopper cars (American Car & Foundry Co.)	$ 5,193.16
500	50-ton box cars (Pullman-Standard Car Manufacturing Company)	5,243.84
20	50-ton box cars (Pullman-Standard)	5,423.67
4	1,600-hp road-switching locomotives (Baldwin - Lima - Hamilton Corporation)	172,064.00
2	1,500-hp road-switching locomotives (General Motors Diesel, Ltd.)	189,040.90
2	4,500-hp passenger locomotives	466,182.00

The certificates, to be dated May 15, would mature in 30 semiannual instalments of $215,000 each, beginning November 15, 1951. They would be sold on the basis of competitive bids, with the interest rate to be set by such bids.

ILLINOIS CENTRAL.—To assume liability for $3,900,000 of series GG equipment trust certificates to finance in part 1,000 new steel box cars. The new cars, built in I.C. shops at Centralia, Ill., will cost an estimated $5,202,500. Five hundred of the cars will cost $5,165 each, and the remainder will cost $5,240 each. The certificates, to be dated May 1, would mature in 30 semiannual installments of $130,000 each, beginning November 1, 1951. They would be sold by competitive bids, with the interest rate to be set by such bids.

Division 4 of the I.C.C. has **authorized:**

DONORA SOUTHERN-JOHNSTOWN & STONY CREEK-LAKE TERMINAL-NORTHAMPTON & BATH.—To issue various unsecured demand notes to the United Steel Corporation in total amounts of $870,000; $400,000; $2,713,800; and $300,000, respectively. The four roads are all owned by U. S. Steel, and the notes evidence unpaid balances of loans made by the corporation to the roads.

ROCK ISLAND MOTOR TRANSIT.—To issue a promissory note of $250,000, proceds from which will be applied toward the firm's open account indebtedness to its parent company, the Chicago, Rock Island & Pacific. The note will bear interest at 2¾ per cent. The C.R.I.&P. will use the money thus acquired to help meet the cost of new equipment and roadway projects during 1951.

Security Price Averages

	May 8	Last Week	Last Year
Average price of 20 representative railway stocks	57.44	56.68	42.58
Average price of 20 representative railway bonds	95.32	95.18	91.26

Dividends Declared

Chesapeake & Ohio.—common, 50¢, quarterly, payable June 20 to holders of record June 1; 3½% convertible preferred, 87½¢, quarterly, payable August 1 to holders of record July 6.

Maine Central.—5% preferred, $1.25, accumulated, payable June 1 to holders of record May 15.

North Pennsylvania.—$1, quarterly, payable May 25 to holders of record May 18.

St. Louis-San Francisco.—62½¢, payable June 15 to holders of record June 1.

RAILWAY OFFICERS

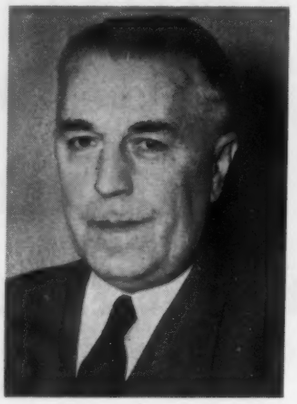
EXECUTIVE

As reported in *Railway Age* April 23, **Garret C. White** has been appointed assistant vice-president of the ERIE at Cleveland. Mr. White was born at Midland Park, N. J., January 24, 1907, and entered railroad service in November 1925 as a stenographer with the Erie at Jersey City, N. J. He

Garret C. White

subsequently served as secretary to general manager, division chief clerk, inspector of transportation, inspector of operation and trainmaster. In July 1941 Mr. White was promoted to division superintendent and in October 1948 became assistant general manager of the Eastern district at Jersey City. He was appointed general manager of the Eastern district in December 1949, in which capacity he served until his recent promotion.

As reported in *Railway Age*, April 23, **Adolph E. Kriesien** has been appointed assistant vice-president and general manager of the Eastern district of the ERIE at Jersey City, N. J. Mr. Kriesien was born at Paterson, N. J., on August 19, 1902, and entered railroad service in 1920 as a rodman with the Erie. He subsequently served as levelman, transitman, head of corps,



Adolph E. Kriesien

assistant division engineer, inspector of operation, trainmaster and division superintendent. On October 16, 1940, Mr. Kriesien was appointed assistant general manager of the Eastern district at Jersey City and in March 1942 he was promoted to general manager of the Western district at Youngstown, Ohio, where he remained until his recent appointment.

Frederick N. Nye, assistant to general freight traffic manager of the NEW YORK CENTRAL SYSTEM, has been appointed assistant to vice-president, finance, with headquarters as before at New York.

Paul E. Feucht, vice-president, Western region, of the PENNSYLVANIA, has been elected executive vice-president of the CHICAGO & NORTH WESTERN SYSTEM, effective August 1. Effective the same date, the position of **J. E. Goodwin,** as vice-president and executive assistant to the president, will be changed to vice-president of the C. & N. W. system.

OPERATING

Raymond B. Croll, superintendent transportation of the Pere Marquette district of the CHESAPEAKE & OHIO, at Detroit, has retired. He is succeeded by **A. G. McIntosh,** assistant superintendent transportation at that point. Mr. Croll, a native of Frankfort, Ind., entered railroad service in 1905

(Continued on page 117)

● Train No. 1, the Erie Limited

Congratulations TO A GREAT RAILROAD!

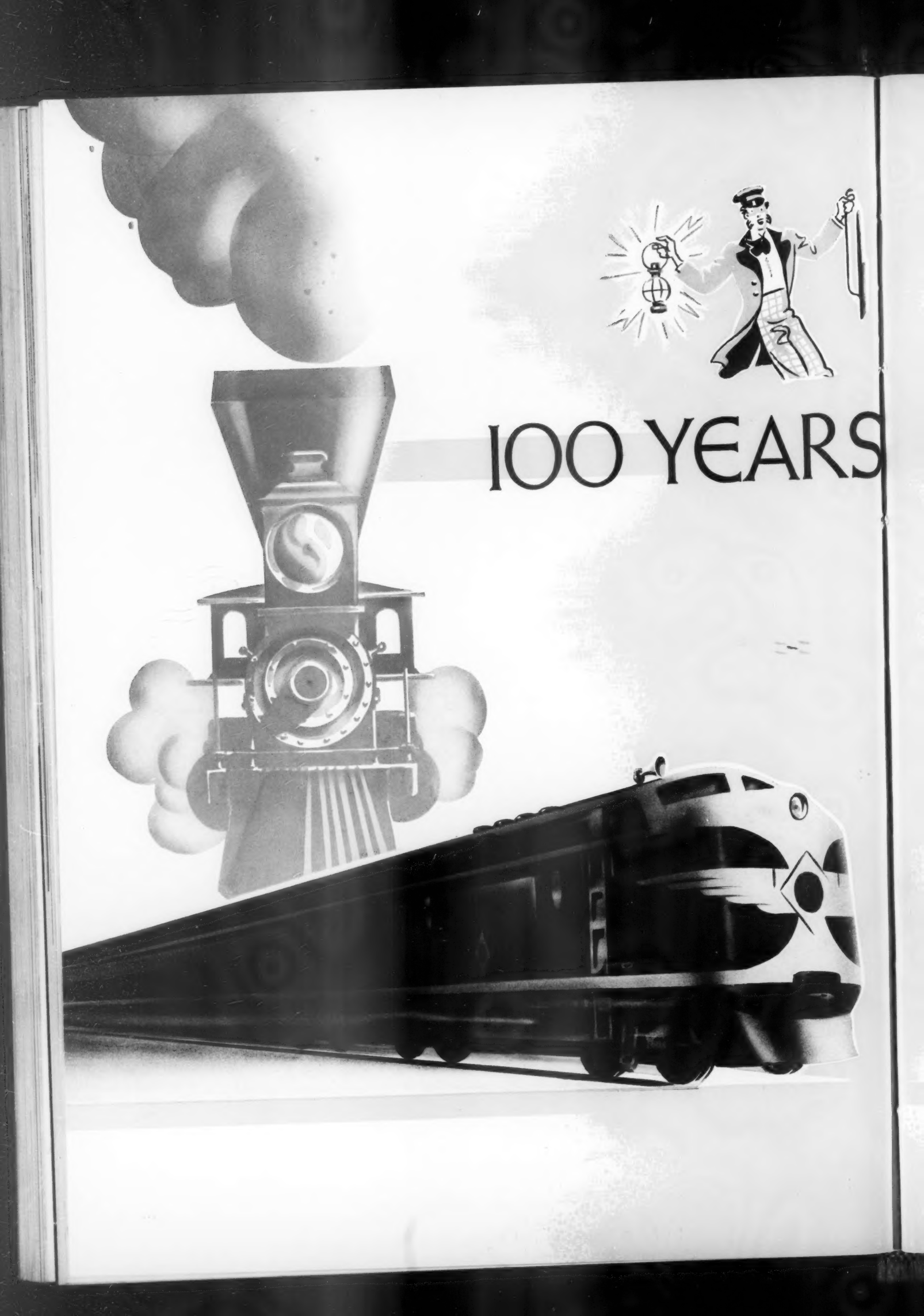
1851 ERIE 100th ANNIVERSARY *Great Lakes to the Sea* 1951 Erie Railroad

We salute a sturdy exemplar of progressive railroading—the ERIE, on the 100th Anniversary of its linking the Great Lakes and the Sea. The vision that accomplished this historic feat exists today in a railroad that is always looking ahead, ever seeking and constantly finding, better ways to serve its shippers and traveling public.

The New York Air Brake Company has been privileged to serve the Erie Railroad over an association of many years' standing. Together with a host of its friends, we join in felicitating this great railroad on a job well done.

The New York Air Brake Company

420 Lexington Ave., New York 17, N.Y. Plant: Watertown, N.Y.


100 YEARS

From Whale Oil to Walkie-Talkies!

PROGRESS ERIE

To an enviable record of Progress, now at the notable milestone of 100 years of Service, the ERIE can point with pride to its record "firsts"...

FIRST, a century ago, to provide unbroken rail service from the Great Lakes to the Sea... and among the FIRST, in mid-years now long gone, to operate Sleeping Cars on regular schedules... now FIRST, in our modern time, with the most extensive Radio-Telephone communication.

From the days of flickering whale oil headlights to the modern miracles of diesel powered streamliners, the Erie has been an important part of the American Scene. To the pioneering spirit of generations of Erie men and women goes credit for the progress of 100 years. Today, the Erie 'family' can be proud of its heritage... confident of its future.

AMERICAN CAR AND FOUNDRY COMPANY

New York • Chicago • St. Louis • Cleveland • Washington • Philadelphia • Pittsburgh • San Francisco

Newest advance in railroading...

ERIE'S *Radio-Equipped* Main Line!

Erie Railroad's *Main Line*—85% of it—is now equipped with *Farnsworth* radio. In clear or foul weather, orders and information can be transmitted—linking cab and caboose...moving trains...dispatchers...wayside stations...even crewmen on foot. This is the most extensive and comprehensive main line radio-telephone communication system ever installed. Soon its coverage will be complete—providing full radio communication between trains and 59 wayside stations, New York to Chicago. 204 mobile units are already in service; 68 more are in process of installation—in addition to 55 mobile and 6 base stations in yard and terminal service. All equipment was engineered and manufactured by an associate of International Telephone and Telegraph Corporation. Comprehensive, practical, fully-proven radio systems are now available to meet the exacting requirements of America's railroads.

INTERNATIONAL TEL AND TEL

IT&T

INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION, NEW YORK, N. Y.

For information on "*Farnsworth*" railway radio communications, address *Federal Telephone & Radio Corporation*, Clifton, N. J.

(Continued from page 112)
as a clerk with the Toledo, St. Louis & Western (now Nickel Plate). From 1916 to 1942 he was employed on the Chicago Great Western, subsequently becoming assistant western director of the Office of Defense Transportation. He joined the C.&O. in October 1945 as assistant superintendent transportation, and became superintendent transportation in April 1947.

J. R. Carr, superintendent of the St. Lawrence division of the CANADIAN NATIONAL at Montreal, has been transferred to the Belleville division at Belleville, Ont., succeeding **A. M. Shea,** who has been transferred to Montreal, to succeed Mr. Carr.

H. B. Smith, superintendent of the Pocahontas division of the NORFOLK & WESTERN at Bluefield, W. Va., has been appointed assistant general superintendent of the Western general division, with the same headquarters, a new position. **A. S. Tabor,** assistant superintendent of the Pocahontas division, has been advanced to superintendent of the Shenandoah division at Roanoke, Va., succeeding **P. C. Wingo,** who has been transferred to the Pocahontas division.

Harold R. Worth, supervisor of transportation of the Ontario district of the CANADIAN PACIFIC at Toronto, has been appointed assistant to the general superintendent of the Quebec district at Montreal. **J. A. Dussault,** assistant superintendent of the Laurentian division at Three Rivers, Que., has been transferred to the Smith's Falls division at Smith's Falls, Ont. **Keith Campbell,** assistant superintendent at Ottawa, has been transferred to Farnham, Que., succeeding **W. J. Presley,** who replaces **A. W. Harris** at Schreiber, Ont. Mr. Harris succeeds Mr. Dussault at Three Rivers.

Douglass Campbell has been appointed assistant to assistant general manager, Big Four district, NEW YORK CENTRAL SYSTEM, with headquarters at Indianapolis.

D. P. Boykin, assistant superintendent of the SOUTHERN PACIFIC at Los Angeles, has been advanced to assistant to general manager, with headquarters at San Francisco. He is succeeded by **M. A. McIntyre,** assistant superintendent at Bakersfield, Cal. Succeeding Mr. McIntyre is **B. W. Bishop,** trainmaster at Dunsmuir, Cal.

J. C. Brigham has been appointed assistant to the general superintendent, Alberta district, of the CANADIAN PACIFIC, with headquarters at Calgary, Alta.

K. R. Schwartz, superintendent of the CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC'S Chicago Terminal division, has been transferred to the Hastings and Dakota division, with headquarters at Aberdeen, S. D., succeeding **J. A. Jakubec.** Mr. Jakubec has been transferred to Chicago to succeed Mr. Schwartz.

William F. Conroy has been appointed superintendent of the BUTTE, ANACONDA & PACIFIC, at Anaconda, Mont.

Robert E. Farrell, assistant superintendent of the CEDAR RAPIDS & IOWA CITY, at Cedar Rapids, Iowa, has been promoted to general superintendent.

As reported in *Railway Age* March 26, **Lawrence E. Pangburn** has been appointed superintendent of the Mohawk and Hudson divisions of the NEW YORK CENTRAL at Albany. Mr. Pangburn was born in Jeffersonville, Ind., in 1901 and joined the N.Y.C. as a brakeman in 1920 at Louisville, subsequently becoming a conductor. He was appointed general yardmaster at Danville, Ill., in 1942, assistant trainmaster at Cincinnati in 1944 and trainmaster in 1945. In 1948 Mr. Pangburn became assistant to general manager at Syracuse and the following year was appointed assistant superintendent at Buffalo, which position he held until his recent appointment as division superintendent.

Lawrence E. Pangburn

TRAFFIC

W. A. Fleming, general agent for the ATCHISON, TOPEKA & SANTA FE at Chicago, has been advanced to general passenger agent, with headquarters at Topeka, Kan., succeeding **F. L. Sturges,** who has retired. **Malcolm O. Strom,** division passenger agent at Chicago, succeeds Mr. Fleming. Mr. Fleming was born July 12, 1900, at Topeka, and entered Santa Fe service in July 1916 as a clerk in the Topeka shops. Subsequently he held various positions until 1939, when he became district passenger agent at Detroit. He was appointed general agent at Chicago in April 1943.

Herndon T. Huntley, district freight agent of the SOUTHERN SYSTEM and the CAROLINA & NORTHWESTERN, has been appointed division freight agent, with headquarters remaining at Hickory, N. C. Mr. Huntley will be in charge of sales and service matters at Conover, Hickory and Newton, N. C., and on the C. & N.

E. E. Bartlam, district freight agent of the CANADIAN PACIFIC at Fort William, Ont., has been appointed division freight agent at Regina, Sask., succeeding **James Charters,** who retired on pension on May 1, after 43 years of service. **W. E. Hogg,** city freight agent at Winnipeg, has been promoted to district freight agent at Fort William.

As reported in *Railway Age,* April 23, **Ben H. Brown** has been appointed traffic manager of the CHARLESTON & WESTERN CAROLINA at Augusta, Ga. Mr. Brown was born at Pittsburgh on September 29, 1899, and entered railroad service on February 1, 1918, with the Atlantic Coast Line, serving as secretary to, successively, the freight traffic manager, the assistant freight traffic manager, and the vice-president in charge of traffic. He then became assistant chief clerk in the freight department, chief clerk in the service and solicitation department, commercial agent, general agent and assistant to freight traffic manager. In November 1940 Mr. Brown was appointed assistant general freight agent at Columbia, S. C., and in October 1944 became assistant to traffic vice-president of the A.C.L., which position he held until his recent appointment as traffic manager of the C. & W. C.

Ben H. Brown

ENGINEERING AND SIGNALING

Coincident with establishment of two operating districts by the CHICAGO, ROCK ISLAND & PACIFIC, to take the place of the three districts into which the system was heretofore divided, the following changes in the engineering department have been announced:
(Continued on page 125)

UNION PACIFIC RAILROAD COMPANY

Fifty-Fourth Annual Report—Year Ended December 31, 1950.

TO THE STOCKHOLDERS OF UNION PACIFIC RAILROAD COMPANY:

The Board of Directors submits the following report for the year ended December 31, 1950, for Union Pacific Railroad Company, including Oregon Short Line Railroad Company, Oregon-Washington Railroad & Navigation Company, Los Angeles & Salt Lake Railroad Company and The St. Joseph and Grand Island Railway Company, whose properties are leased to Union Pacific Railroad Company. The lessor companies have certain income and charges, and the figures in the Income Account, other than those relating to transportation operations, and in the Surplus Account and General Balance Sheet and tabulations and tables relating thereto are stated on a consolidated basis, *excluding offsetting accounts between companies.*

INCOME.

	1950.	1949.	Increase.	Decrease.
Transportation Operations.				
Operating revenues	$465,283,516.36	$398,823,082.46	$66,460,433.90	
Operating expenses	327,013,966.52	317,922,665.16	9,091,301.36	
Revenues over expenses	$138,269,549.84	$80,900,417.30	$57,369,132.54	
Taxes	76,541,751.14	42,729,224.49	33,812,526.65	
Railway Operating Income	$61,727,798.70	$38,171,192.81	$23,556,605.89	
Rents from use of joint tracks, yards, and terminal facilities	1,955,909.95	1,899,665.37	56,244.58	
	$63,683,708.65	$40,070,858.18	$23,612,850.47	
Hire of equipment—debit balance	$16,136,605.41	$15,023,681.89	$1,112,923.52	
Rents for use of joint tracks, yards, and terminal facilities	3,418,182.00	3,339,739.22	78,442.78	
	$19,554,787.41	$18,363,421.11	$1,191,366.30	
Net Income from Transportation Operations	**$44,128,921.24**	**$21,707,437.07**	**$22,421,484.17**	
Income from Investments and Sources other than Transportation Operations.				
Income from oil and gas operations—net†	$23,902,997.87	$27,140,327.31	.....	$3,237,329.44
Dividends on stocks owned	4,501,383.95	3,736,240.75	$765,143.20	
Interest on bonds and notes owned	1,776,324.27	1,978,590.40	.....	202,266.13
Other interest income	119,249.46	141,386.83	.....	22,137.37
Rents from lease of road and equipment	454,673.33	265,799.45	188,873.88	
Miscellaneous rents	514,509.29	510,606.10	3,903.19	
Miscellaneous income	995,803.06	977,981.47	17,821.59	
Total	$32,264,941.23	$34,750,932.31	.....	$2,485,991.08
Total Income	$76,393,862.47	$56,458,369.38	$19,935,493.09	
Fixed and Other Charges.				
Interest on funded debt	$5,565,280.19	$5,766,477.96	.....	$201,197.77
Interest on unfunded debt	379,319.90	388,104.63	.....	8,784.73
Miscellaneous rents	28,334.60	27,178.81	$1,155.79	
Miscellaneous charges	659,377.79	686,881.22	.....	27,503.43
Total	$6,632,312.48	$6,868,642.62	.....	$236,330.14
Net Income from All Sources	**$69,761,549.99**	**$49,589,726.76**	**$20,171,823.23**	
Released from "Reserve against possible refunds on U. S. Government shipments"	226,982.16	104,811.71	122,170.45	
Total for Disposition	**$69,988,532.15**	**$49,694,538.47**	**$20,293,993.68**	
DISPOSITION.				
Dividends on Stock of Union Pacific Railroad Co.:				
Preferred Stock:				
2 per cent paid April 1, 1950	$1,990,862.00			
2 per cent paid October 2, 1950	1,990,862.00	$3,981,724.00	$3,981,724.00	
Common stock:				
2½ per cent paid April 1, 1950	$5,557,275.00			
2½ per cent paid July 1, 1950	5,557,275.00			
2½ per cent paid October 2, 1950	5,557,275.00			
4½ per cent payable January 2, 1951	10,003,095.00	26,674,920.00	22,229,100.00	$4,445,820.00
Total Dividends		$30,656,644.00	$26,210,824.00	$4,445,820.00
Transferred to Earned Surplus—Unappropriated		**$39,331,888.15**	**$23,483,714.47**	**$15,848,173.68**

† Excludes Federal income and excess profits taxes.

Operating results for year 1950 compared with year 1949.

	1950.	1949.	Increase.	Decrease.	Per Cent.
Average miles of road operated	9,719.63	9,724.78	.....	5.15	.1
Operating Revenues.					
Freight	$389,289,636.65	$332,654,719.33	$56,634,917.32	.....	17.0
Passenger	33,159,662.49	32,400,922.69	758,739.80	.....	2.3
Mail	23,374,664.43	13,463,136.65	9,911,527.78	.....	73.6
Express	4,368,700.60	4,720,146.97	.....	$351,446.37	7.4
Other passenger-train	5,203,304.08	5,568,564.19	.....	365,260.11	6.6
Switching	4,805,136.59	4,298,953.41	506,183.18	.....	11.8
Other	5,082,411.52	5,716,639.22	.....	634,227.70	11.1
Total operating revenues	$465,283,516.36	$398,823,082.46	$66,460,433.90	.....	16.7
Operating Expenses.					
*Maintenance of way and structures	$59,107,660.92	$63,410,805.26	.....	$4,303,144.34	6.8
*Maintenance of equipment	80,889,966.32	73,337,288.64	$7,552,677.68	.....	10.3
Total maintenance	$139,997,627.24	$136,748,093.90	$3,249,533.34	.....	2.4
Traffic	9,562,158.05	9,118,499.77	443,658.28	.....	4.9
Transportation	155,294,637.77	148,980,346.01	6,314,291.76	.....	4.2

[Advertisement]

	1950.	1949.	Increase.	Decrease.	Per Cent.
Miscellaneous operations	11,264,048.85	11,858,598.30	.....	$594,549.45	5.0
General	10,895,494.61	11,217,127.18	.....	321,632.57	2.9
Total operating expenses	$327,013,966.52	$317,922,665.16	$9,091,301.36	.....	2.9
Revenues over Expenses	$138,269,549.84	$80,900,417.30	$57,369,132.54	.....	70.9
Taxes.					
State and county	$16,312,887.57	$16,187,349.50	$125,538.07	.....	.8
Federal income and excess profits	$49,027,389.00	$15,843,909.83	$33,183,479.17	.....	209.4
Federal unemployment insurance	842,726.22	810,212.42	32,513.80	.....	4.0
Federal retirement	10,210,342.20	9,776,899.89	433,442.31	.....	4.4
Other federal	148,406.15	110,852.85	37,553.30	.....	33.9
Total federal	$60,228,863.57	$26,541,874.99	$33,686,988.58	.....	126.9
Total taxes	$76,541,751.14	$42,729,224.49	$33,812,526.65	.....	79.1
Railway Operating Income	$61,727,798.70	$38,171,192.81	$23,556,605.89	.....	61.7
Equipment rents (debit)	16,136,605.41	15,023,681.89	1,112,923.52	.....	7.4
Joint facility rents (debit)	1,462,272.05	1,440,073.85	22,198.20	.....	1.5
Net Railway Operating Income	**$44,128,921.24**	**$21,707,437.07**	**$22,421,484.17**	.....	**103.3**
Per cent—Operating expenses of operating revenues	70.28	79.72	.....	9.44	11.8
Freight Traffic. (*Commercial Freight only*)					
Tons of revenue freight carried	51,460,101	47,082,024	4,378,077	.....	9.3
Ton-miles, revenue freight	30,255,786,068	25,918,650,763	4,337,135,305	.....	16.7
Average distance hauled per ton (*miles*)	587.95	550.50	37.45	.....	6.8
Average revenue per ton-mile (*cents*)	1.287	1.283	.004	.....	.3
Average revenue per freight-train mile	$13.60	$12.72	$.88	.....	6.9
Passenger Traffic.					
Revenue passengers carried	2,190,630	2,319,752	.....	129,122	5.6
Revenue passengers carried one mile	1,426,402,007	1,431,213,703	.....	4,811,696	.3
Average distance hauled per passenger (*miles*)	651.14	616.97	34.17	.....	5.5
Average passengers per passenger-train mile	92.41	92.38	.03	.....	----
Average revenue per passenger-mile (*cents*)	2.325	2.264	.061	.....	2.7
Average revenue per passenger-train mile, passengers only	$2.15	$2.09	$ .06	.....	2.9
Average total revenue per passenger-train mile	$3.81	$3.25	$ .56	.....	17.2
*Include depreciation, amortization and retirement charges:					
Maintenance of way and structures	$5,121,363.49	$6,268,468.45	.....	$1,147,104.96	
Maintenance of equipment	15,991,158.93	14,226,194.98	$1,764,963.95		

Expenditures chargeable to investment in Road and Equipment Property:

Additions and Betterments (excluding equipment)	$11,590,157.69
Equipment	46,100,271.79
Total Expenditures	$57,690,429.48
Credits to investment in Road and Equipment Property:	
Cost of road property retired and not replaced	$ 1,014,661.26
Cost of equipment retired	5,543,266.37
Total Credits	$ 6,557,927.63
Net increase in investment in "Road and Equipment Property"	$51,132,501.85

General Balance Sheet—Assets.

	December 31, 1950.	December 31, 1949.	Increase.	Decrease.
Investments:				
Road and Equipment	$1,238,148,752.10	$1,187,016,250.25	$51,132,501.85	
Less:				
Receipts from improvement and equipment fund	$23,823,091.13	$23,823,091.13		
Appropriations from income and surplus prior to July 1, 1907, credited to this account	13,310,236.52	13,310,236.52		
Total	$37,133,327.65	$37,133,327.65		
Road and equipment property	**$1,201,015,424.45**	**$1,149,882,922.60**	**$51,132,501.85**	
Donations and grants (Credit)	*$14,015,057.23*	*$13,928,530.73*	*$86,526.50*	
Reserve for depreciation—road and equipment (Credit)	*$198,047,007.86*	*$186,235,706.84*	*$11,811,301.02*	
Reserve for amortization of national defense projects (Credit)	*$61,044,459.29*	*$58,691,830.71*	*$2,352,628.58*	
Sinking funds	$463.75	$726.25	.....	$262.50
Capital and other reserve funds	$9,463.35	$9,234.88	$228.47	
Miscellaneous physical property	$36,035,313.07	$34,360,770.68	$1,674,542.39	
Reserve for depreciation—miscellaneous physical property (Credit)	*$18,479,836.03*	*$16,844,176.11*	*$1,635,659.92*	
Investments in affiliated companies:				
Stocks	$20,312,013.24	$20,308,013.24	$4,000.00	
Notes	296,190.40	307,782.14	.....	$11,591.74
Advances	7,841,109.60	8,163,685.32	.....	322,575.72
Total	$28,449,313.24	$28,779,480.70	.....	$330,167.46
Other Investments:				
Stocks	$63,969,222.36	$64,048,875.42	.....	$79,653.06
Bonds and notes	21,043,464.57	24,040,747.01	.....	2,997,282.44
Total	$85,012,686.93	$88,089,622.43	.....	$3,076,935.50
Reserve for adjustment of investments in securities (Credit)	*$33,769,916.15*	*$33,832,829.01*	.....	*$62,912.86*
Total Investments	**$1,025,166,388.23**	**$991,589,684.14**	**$33,576,704.09**	

[Advertisement]

	December 31, 1950.	December 31, 1949.	Increase.	Decrease.
Current Assets:				
Cash	$57,051,719.88	$48,092,933.78	$8,958,786.10	
Temporary cash investments (U. S. Government securities)	56,343,204.51	*56,400,000.00	.....	$56,795.49
Special deposits	191,870.14	244,566.50	.....	52,696.36
Loans and bills receivable	381.82	359.01	22.81	
Traffic and car-service balances—net	11,653,502.73	10,109,331.15	1,544,171.58	
Net balance receivable from agents and conductors	6,967,015.35	4,309,313.20	2,657,702.15	
Miscellaneous accounts receivable	26,910,561.34	13,268,892.99	13,641,668.35	
Material and supplies	42,099,998.18	35,317,424.06	6,782,574.12	
Interest and dividends receivable	764,089.80	*1,175,630.88	.....	411,541.08
Accrued accounts receivable	16,404,480.52	11,944,114.40	4,460,366.12	
Other current assets:				
Baltimore and Ohio Railroad Co. capital stock applicable to payment of extra dividend of 1914	105,129.30	105,485.30	.....	356.00
Miscellaneous items	388,165.84	171,334.14	216,831.70	
Total Current Assets	$218,880,119.41	$181,139,385.41	$37,740,734.00	
Deferred Assets:				
Working fund advances	$133,182.84	$123,337.51	$9,845.33	
Other deferred assets	1,430,694.54	2,767,860.01	.....	$1,337,165.47
Total Deferred Assets	$1,563,877.38	$2,891,197.52	.....	$1,327,320.14
Unadjusted Debits:				
Prepayments	$19,517.76	$880.72	$18,637.04	
Other unadjusted debits	1,217,201.95	1,474,027.45	.....	$256,825.50
Total Unadjusted Debits	$1,236,719.71	$1,474,908.17	.....	$238,188.46
Grand Total	**$1,246,847,104.73**	**$1,177,095,175.24**	**$69,751,929.49**	

* Restated.

General Balance Sheet—Liabilities.

	December 31, 1950.	December 31, 1949.	Increase.	Decrease.
Capital Stock:				
Common stock	$222,302,500.00	$222,302,500.00		
Preferred stock	99,591,580.79	99,591,580.79		
Total Capital Stock	$321,894,080.79	$321,894,080.79		
Funded Debt	215,396,183.21	225,991,778.07	.....	$10,595,594.86
Total Capital Stock and Funded Debt	$537,290,264.00	$547,885,858.86	.....	$10,595,594.86
Due to Affiliated Companies	$11,990,170.47	$9,218,605.81	$2,771,564.66	
Current Liabilities:				
Audited accounts and wages payable	$25,270,020.81	$20,935,670.41	$4,334,350.40	
Miscellaneous accounts payable	4,741,912.84	4,260,869.48	481,043.36	
Interest matured unpaid (including interest due first proximo)	209,300.63	253,779.63	.....	$44,479.00
Dividends matured unpaid:				
Dividends due but uncalled for	247,128.94	267,660.33	.....	20,531.39
Extra dividend on common stock declared January 8, 1914, payable to stockholders of record March 2, 1914, unpaid	113,413.16	113,799.39	.....	386.23
Dividend on common stock payable second proximo	10,003,095.00	5,557,275.00	4,445,820.00	
Unmatured interest accrued	1,609,076.54	1,626,873.61	.....	17,797.07
Accrued accounts payable	16,890,822.35	14,680,647.43	2,210,174.92	
Taxes accrued	61,260,299.63	35,378,707.15	25,881,592.48	
Other current liabilities	2,455,180.80	1,996,034.26	459,146.54	
Total Current Liabilities	$122,800,250.70	$85,071,316.69	$37,728,934.01	
Deferred Liabilities	$7,809,159.17	$7,714,341.63	$94,817.54	
Unadjusted Credits:				
Premium on funded debt	$4,265,171.42	$4,477,387.15	.....	$212,215.73
Reserve for fire insurance	18,923,535.21	17,828,709.77	$1,094,825.44	
Reserve for depreciation—leased property	7,396.63	6,517.99	878.64	
Other unadjusted credits	2,393,542.55	2,270,459.74	123,082.81	
Total Unadjusted Credits	$25,589,645.81	$24,583,074.65	$1,006,571.16	
Total Liabilities	**$705,479,490.15**	**$674,473,197.64**	**$31,006,292.51**	
Surplus:				
Unearned surplus	$311,639.23	$270,840.24	$40,798.99	
Earned surplus—appropriated:				
Additions and betterments	$28,522,352.23	$28,522,352.23		
Funded debt retired through income and surplus	7,936,647.41	6,730,647.41	$1,206,000.00	
Sinking fund reserves	463.75	726.25	.....	$262.50
Reserve against possible refunds on U. S. Government shipments	1,697,648.14	1,924,630.30	.....	226,982.16
Total Earned Surplus—Appropriated	$38,157,111.53	$37,178,356.19	$978,755.34	
Earned Surplus—Unappropriated	**$463,314,316.58**	**$425,588,233.93**	**$37,726,082.65**	
Total Earned Surplus	$501,471,428.11	$462,766,590.12	$38,704,837.99	
Total Surplus	$501,783,067.34	$463,037,430.36	$38,745,636.98	
As this consolidated balance sheet excludes all intercompany items, securities of the Los Angeles & Salt Lake Railroad Company and The St. Joseph and Grand Island Railway Company owned by other System companies are not included. The difference between the par and face value of such securities as carried on the books of the issuing companies (less unextinguished discount on the bonds and discount charged to Earned Surplus—Unappropriated but added back in consolidating the accounts) and the amounts at which the securities are carried on the books of the owning companies is set up here to balance	$39,584,547.24	$39,584,547.24		
Grand Total	**$1,246,847,104.73**	**$1,177,095,175.24**	**$69,751,929.49**	

[Advertisement]

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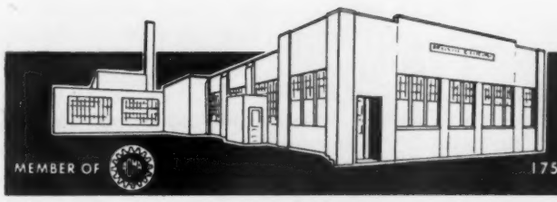

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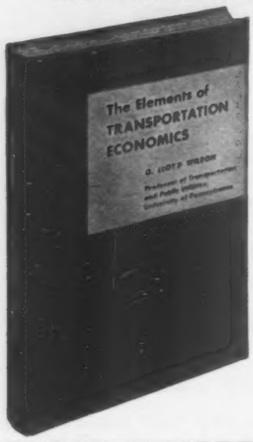

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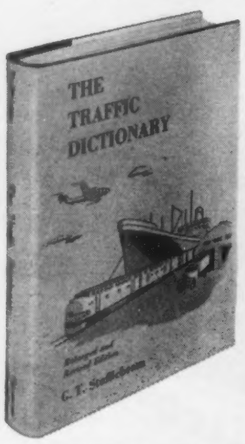

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(Continued from page 117)

R. L. Etherton, roadmaster at Trenton, Mo., promoted to district maintenance engineer at Kansas City; **R. P. Scott,** appointed district maintenance engineer, operating out of Rock Island, Ill., on the Chicago, Rock Island and Cedar Rapids divisions; and **J. W. Shurtleff,** appointed district maintenance engineer over the Des Moines and Western divisions.

P. A. Cosgrove, supervisor of track for the ILLINOIS CENTRAL at East St. Louis, Ill., has been advanced to division engineer at Champaign, Ill., succeeding **E. F. Snyder,** who has been promoted to assistant to chief engineer (*Railway Age*, March 12).

The name of the MISSOURI PACIFIC's telegraph department has been changed to communications department and its personnel has received the following new titles: **W. Rogers,** general superintendent communications; **R. A. Hendrie,** superintendent communications; **W. Chunn,** assistant superintendent communications; **L. E. Verbarg,** electronics engineer; and **R. H. Richter,** assistant superintendent communications (Gulf Coast Lines and International-Great Northern). **H. R. Bates** has been appointed telegraph engineer at St. Louis, succeeding **F. K. Garlock,** who has been assigned as manager, St. Louis telegraph office. **J. R. French** becomes assistant superintendent communications at St. Louis.

R. E. Peck, assistant bridge engineer of the MISSOURI PACIFIC, has been promoted to bridge engineer, with headquarters continuing at St. Louis. He succeeds **J. R. Showalter,** who has retired. **E. I. Beesley,** assistant engineer at St. Louis, succeeds Mr. Peck. Mr. Showalter was born on December 16, 1884, at Kokomo, Ind., and received his A.B. degree from De Pauw University in 1906. Following employment with the Illinois Steel Company at Chicago, and service as deputy county surveyor at Kokomo, he began his railroad career in 1911 as district bridge inspector for the Baltimore & Ohio. Two years later he joined the M. P. as system bridge inspector. From 1918 to 1929 he served as superintendent and vice-president of the I. E. Smith Construction Company, Richmond, Ind., subsequently returning to the M. P. as assistant engineer. Mr. Showalter was appointed bridge engineer in 1943.

Ross O. Stewart, engineer of bridges of the CANADIAN NATIONAL SYSTEM, has been appointed assistant chief engineer, construction, with headquarters as before at Montreal. **T. H. Jenkins,** bridge engineer of the Central region at Toronto, succeeds Mr. Stewart as engineer of bridges of the system. Mr. Stewart was born at Lindsay, Ont., on May 19, 1889, and attended the University of Toronto (B. Sc. in C.E., 1911). He began his

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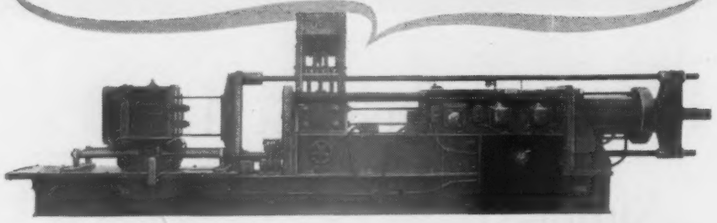

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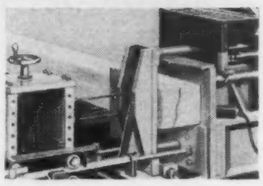

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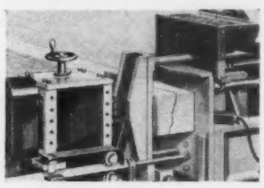
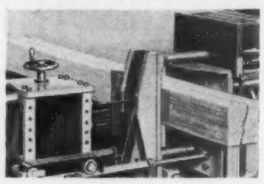


Second Step—Holes are automatically drilled slightly smaller than dowel size.



Third Step—Dowels are automatically screwed into tie by hydraulic pressure, completing operation. Tie is released and is then ejected by incoming tie.

Write today for Bulletin DM-1

GRAHAM TIE DOWEL SERVICE CO.

1201 HUNTINGTON BANK BUILDING • COLUMBUS, OHIO

career with the Dominion Bridge Company, entering railroad service in 1913 as assistant bridge engineer with the Canadian Government Railways (now C.N.) at Moncton, N. B. In 1921 he was appointed assistant engineer of bridge standards at Toronto and two years later transferred to Montreal. Mr. Stewart was named engineer of bridge standards in 1931 and the following year became assistant structural engineer. Later in 1932 he was appointed assistant engineer of bridges and in May, 1942 was named engineer

Ross O. Stewart

of bridges. Mr. Jenkins was born at Toronto May 1, 1902, and attended the University of Toronto (B.S. in C.E., 1925) He entered railroad service on November 1, 1926, as draftsman in the office of the chief engineer of the

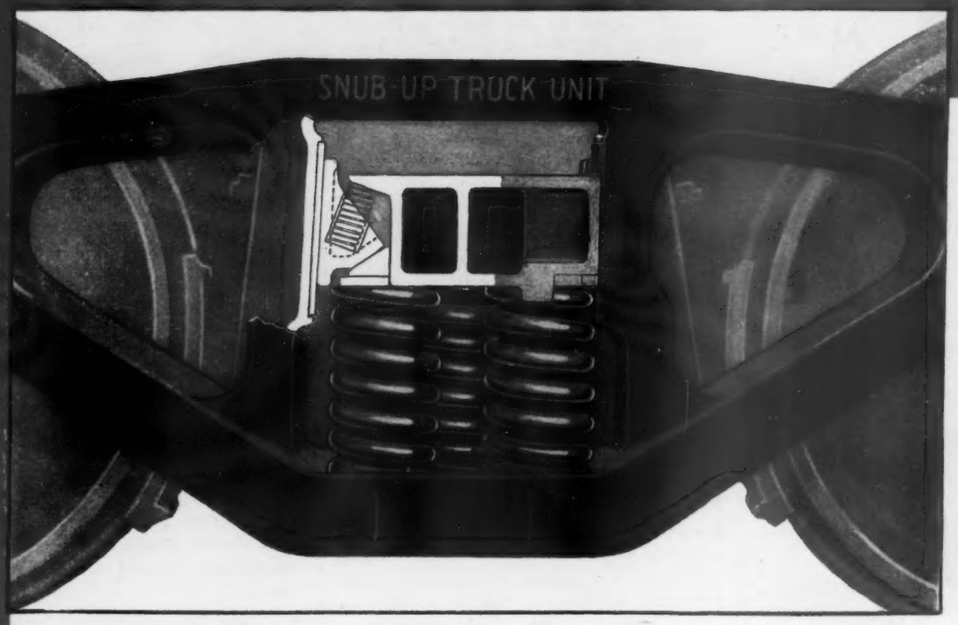
T. H. Jenkins

Grand Trunk Western at Detroit, becoming chief draftsman there in 1940 and bridge engineer in 1947. In 1949 Mr. Jenkins became bridge engineer of the Central region of the C.N. at Toronto.

SPECIAL

J. E. Vandling has been appointed superintendent of safety of the Eastern region of the PENNSYLVANIA at Philadelphia.

SNUBBING UP REDUCES ROUGH REBOUNDS



Snub-UP Trucks improve the ride by soft, gradual application of frictional damping, ESPECIALLY DURING RECOIL OF BOLSTER SPRINGS, thereby reducing the severe upward shocks, and preventing lading from bouncing.

Snub-UP Trucks require less unit friction pressure, thereby lengthening life of friction surfaces.

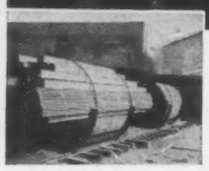
CENTENNIAL CONGRATULATIONS to the ERIE a user of the Snub-UP Truck

THE SNUB-UP TRUCK

RAILWAY TRUCK CORPORATION

1928 WEST 46TH STREET • CHICAGO 9, ILLINOIS

Railroad & Car
MATERIAL



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MILL
Quality

TREATED - UNTREATED

A dependable source of supply comprising extensive timber resources, sawmills and large-capacity treating plant.

★

Car Framing Material
Lining Siding Decking
Longitudinal Car Siding
Tank Car Running Boards

BRIDGE
MATERIAL

POSTS
PILING

Ties in Pine and Hardwood

★

Creosoted, WOLMANIZED* Treated and Fire-retardant Material

*Reg. U. S. Pat. Off.

★

More than 50 years' service to the nation's leading railroads and car builders.

FROST
LUMBER INDUSTRIES, Inc.
SHREVEPORT
LOUISIANA

Current Publications

PAMPHLET

The Story of the Monad. 16 pages, illustrations. Prepared by the Advertising Department of the Northern Pacific, St. Paul 1, Minn., from which copies may be obtained on request.

The N.P.'s herald, or trade mark, is based on an oriental symbol—the monad—which represents ideas in oriental cultural which are believed to have originated more than 4,000 years ago. This pamphlet traces the chronology and development of this age-old symbol and tells how it came to be adopted by the Northern Pacific. Originally published a number of years ago, the pamphlet has been extensively revised and now treats in greater detail the significance of the monad on the flag of Korea.

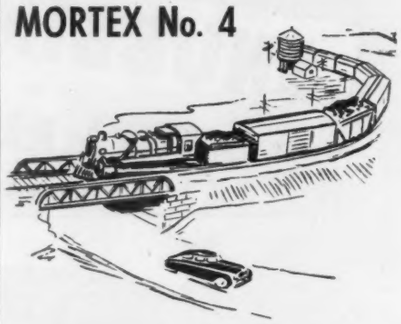
SPECIAL

Signs of Life. A promotional kit for highway-rail intersection and trespassing programs, revised and enlarged by the National Safety Council in cooperation with railroad safety representatives and others. Copies have been furnished to the chief safety officers of all roads belonging to the council. Extra copies, in small quantities, free; in large quantities, 85 cents each.

The latest version of this "gospel of railroad-highway safety" contains nearly 40 separate booklets and other aids for teaching the importance of safe conduct to children or adult groups. All material of the original kit—issued two years ago—has been revised or otherwise brought up to date.

The kit also contains a wealth of material on the trespassing problem which plagues many railroads, especially where schools are located near tracks. The kit includes a handy supply of speech material dealing with both highway-rail crossing accidents and trespassing, designed for delivery by railroad representatives to young school children, high school students, service clubs, farm organizations, railroad employees and other groups. The "Signs of Life" program was originally conceived to impress motorists with the need for obeying all highway traffic signs, signals and pavement markings, including those at highway-railroad crossings. The thought behind this approach was that by educating drivers to heed all traffic control devices, they will respect those of highway-rail intersections. It is also effective in impressing enginemen, operators of track motor cars, switchmen who protect crossings in switching territory, crossing watchmen, and others, with the need to do an effective job in crossing protection. It points out, too, that most railroad employees are also automobile drivers and have, therefore, a double responsibility.

CONSERVE
ROLLING STOCK,
YARD and Right-of-Way
EQUIPMENT with
MORTEX No. 4



- Protects against rain and moisture
- Protects against salt brine
- Protects against acid and alkali fumes
- Odorless
- Non-toxic
- Vermin-proof

One application of this tested coating is far superior to paints and cut-back asphalt products. It's the most practical low-cost rust preventive for roofs, interiors and underframes of steel freight and refrigerator cars, covered hopper cars u ed for soda ash, lime and similar products, ice bunkers and equipment exposed toacid fumes and gases.

It's tops for steel bridges, cooling system ducts and sumps, outside storage tanks, tool houses and bins.

Will not run, sag, blister or craze at temperatures up to 250° F.

EASY TO APPLY

Mortex No. 4 can be put on with brush, trowel or spray. It adheres to any clean dry surface and forms a rich, dull black finish.

TRY IT YOURSELF

Most railroads get Mortex No. 4 in 55 gallon drums, but you can order either a 1-gallon or a 5-gallon can and put it through your own comparative tests.

Write for literature

J. W. MORTELL CO.
Technical Coatings since 1895
563 Burch St., Kankakee, Ill.

Diesel-Electric Locomotive Units In Railway Service

Class I railroads' diesel-electric locomotive inventory increased by nearly 30 per cent in number of units and more than 30 per cent in horsepower in 1950

As of December 31, 1950, there were 15,340 diesel-electric locomotive units in railway service, of which 14,147 units were owned by Class I, line-haul railroads, in the United States (excluding switching and terminal companies).

The diesel-electric locomotive inventory of Class I, line-haul railroads, was increased by 3,174 units, totalling 4,432,137 hp.—from 10,973 units aggregating 14,009,850 hp. as of December 31, 1949, to 14,147 units, totalling 18,441,987 hp. as of the same date in 1950. This increase included 11 units of 2,500 hp.; 100 units of 2,250 hp.; 11 units of 2,000 hp.; 283 units of 1,600 hp.; and 1,792 units of 1,500 hp.

Switching and terminal companies and Class II and III railroads owned 1,193 diesel-electric units aggregating 1,072,677 hp. as of December 31, 1950.

The diesel-electric locomotive units in service on Class I, line-haul railroads (excluding switching and terminal companies), as of December 31, 1950, were as follows:

Number of Units	Horsepower Each Unit	Total Horsepower
36	3,000	108,000
11	2,500	27,500
119	2,250	267,750
1,275	1800 or 2000	2,543,200
283	1,600	452,800
5,647	1,500	8,470,500
1,173	1,350	1,583,550
5,603	1,200 or less	4,988,687
Total 14,147		18,441,987

A similar tabulation was published in the May 27, 1950, issue of *Railway Age* and the July 1950 issue of *Railway Mechanical and Electrical Engineer*, covering Diesel locomotive statistics for the previous year.

DIESEL-ELECTRIC LOCOMOTIVE UNITS IN SERVICE ON CLASS I RAILWAYS
Excluding Switching & Terminal Companies—As of December 31, 1950

Railroad	Number of Units in Various Horsepower Classes*								Total	
	3000	2500	2250	1800 or 2000	1600	1500	1350	1200 or less	Units	Horsepower†
Akron, Canton & Youngstown	....	....	....	4	....	1	....	2	7	11,500
Ann Arbor	....	....	....	....	14	....	....	9	23	28,720
Atlanta & St. Andrews Bay	....	....	....	....	....	1	....	12	13	13,500
Atlanta & West Point—W. of Ala.	....	....	....	....	....	10	....	6	16	21,000
Atlantic & Danville	....	....	....	....	....	6	....	...	6	9,000
Atchison, Topeka & Santa Fe	....	....	....	66	1	336	320	244	967	1,299,830
Atlantic Coast Line	....	....	5	59	....	101	72	43	280	422,750
Baltimore & Ohio	....	....	8	44	....	224	24	213	513	674,260
Bangor & Aroostook	....	....	....	2	....	32	....	4	38	56,000
Bessemer & Lake Erie	....	....	....	....	....	21	....	2	23	33,030
Boston & Maine	....	....	1	21	....	34	68	70	194	238,950
Central of Georgia	....	....	2	10	....	19	....	25	56	74,980
Central of N. J.—Cent. of Pa.	....	....	....	6	12	44	....	43	105	133,460
Central Vermont	....	....	....	....	....	....	....	3	3	3,000
Charleston & W. Carolina	....	....	....	....	....	14	....	2	16	23,400
Chesapeake & Ohio, incl. P.M.	....	....	....	12	16	90	....	145	263	332,980
Chicago & Eastern Illinois	....	....	....	3	....	56	....	24	83	109,400
C. & N. W.—C. St. P. M. & O.	....	....	4	42	....	157	8	167	378	477,510
Chicago, Burlington & Quincy	....	....	22	58	....	123	74	171	448	610,400
Chicago Great Western	....	....	....	9	....	76	....	42	127	169,715
Chicago, Indianapolis & Louisville	....	....	....	....	....	47	....	10	57	79,700
Chicago, Milwaukee, St. P. & Pac.	....	....	....	35	....	122	52	147	356	453,540
Chicago, Rock Island & Pacific	....	....	1	31	15	89	48	152	336	396,360
Clinchfield	....	....	....	....	....	22	....	6	28	40,200
Colorado & Southern	....	....	....	2	....	12	....	5	19	27,200
Colorado & Wyoming	....	....	....	....	....	....	....	3	3	3,000
Columbus & Greenville	....	....	....	....	....	5	....	2	7	8,632
Delaware & Hudson	....	....	....	....	....	49	....	50	99	123,500
Delaware, Lackawanna & Western	....	....	....	....	....	59	20	54	133	155,040
Denver & Rio Grande Western	....	....	....	6	....	79	48	37	170	226,760

* Number of Units Based on A. A. R. Statistics. † Horsepower Compiled by the Simmons-Boardman Publishing Corporation.

DIESEL-ELECTRIC LOCOMOTIVE UNITS IN SERVICE ON CLASS I RAILWAYS—CONTINUED

Railroad	Number of Units in Various Horsepower Classes								Total	
	3000	2500	2250	1800 or 2000	1600	1500	1350	1200 or less	Units	Horsepower
Detroit & Mackinac	....	....	....	....	....	6	....	1	7	9,660
Detroit & Toledo Shore Line	....	....	....	....	....	....	....	3	3	3,600
Detroit, Toledo & Ironton	....	....	....	....	....	....	....	14	14	14,200
Duluth, So. Shore & Atlantic	....	....	....	4	4	....	....	7	15	21,000
Elgin, Joliet & Eastern	....	....	....	32	....	10	....	107	149	169,900
Erie	....	....	....	12	24	154	24	125	339	441,280
Florida East Coast	....	....	....	26	....	18	....	...	44	79,000
Ft. Worth & Denver City	....	....	2	2	....	12	....	5	21	31,100
Georgia & Florida	....	....	....	....	....	6	....	3	9	10,800
Georgia	....	....	....	....	....	10	....	8	18	23,000
Grand Trunk Western	....	....	....	....	....	22	....	36	58	67,700
Great Northern	....	....	....	13	....	205	96	110	424	570,860
Green Bay & Western	....	....	....	....	....	9	....	4	13	16,420
Gulf Coast Lines	....	....	....	2	....	44	....	16	62	84,050
Gulf, Mobile & Ohio, incl. Alton	....	....	....	17	8	153	....	65	243	339,740
Illinois Central	....	....	4	22	....	2	4	102	134	163,980
Illinois Terminal	....	....	....	....	....	....	....	19	19	19,000
International-Great Northern	....	....	2	4	....	36	....	11	53	74,760
Kansas City Southern	....	....	....	11	....	47	....	35	93	129,160
Lake Superior & Ishpeming	....	....	....	....	....	5	....	...	5	7,500
Lehigh & Hudson River	....	....	....	....	11	....	....	...	11	17,600
Lehigh & New England	....	....	....	....	....	26	....	7	33	45,440
Lehigh Valley	....	....	....	14	10	56	8	92	180	223,660
Long Island	....	....	....	8	....	1	....	45	54	55,240
Louisiana & Arkansas	....	....	....	3	....	22	....	12	37	51,000
Louisville & Nashville	....	....	....	28	....	67	....	107	202	245,720
Maine Central	....	....	....	7	....	23	....	25	55	66,360
Midland Valley-K. O. & G.-O. C.-A.-A	....	....	....	....	....	6	....	1	7	10,000
Minneapolis & St. Louis	....	....	....	....	....	14	9	43	66	72,950
Minneapolis, St. P. & S. Ste. M.	....	....	....	....	....	76	....	18	94	130,980
Missouri-Illinois	....	....	....	....	....	1	....	1	2	2,500
Missouri-Kansas-Texas	....	....	8	6	17	68	....	20	119	177,600
Missouri Pacific	....	....	6	22	14	154	24	75	295	408,200
Nashville, Chatt. & St. Louis	....	....	....	....	....	69	....	38	107	138,980
New York Central System	....	....	4	103	8	242	10	469	836	958,760
New York, Chicago & St. Louis	....	....	....	11	....	....	....	71	82	93,440
New York, New Haven & Hartford	....	....	....	87	30	62	....	159	338	430,620
New York, Ontario & Western	....	....	....	....	....	7	18	24	49	56,940
New York, Susquehanna & Western	....	....	....	....	....	....	....	22	22	20,380
Norfolk Southern	....	....	....	....	....	10	....	8	18	20,780
Northern Pacific	....	....	....	....	....	99	44	64	207	270,740
Northwestern Pacific	....	....	....	....	....	8	....	2	10	12,760
Pennsylvania	22	11	10	187	27	246	....	662	1,165	1,452,590
Pennsylvania-Reading Sea Shore Lines	....	....	....	....	....	6	....	...	6	9,000
Pittsburgh & Lake Erie	....	....	....	4	....	....	....	37	41	45,000
Pittsburgh & West Virginia	....	....	....	4	....	....	....	1	5	9,000
Reading	....	....	....	....	....	54	20	117	191	212,560
Richmond, Fredericksburg & Potomac	....	....	10	....	....	23	....	22	55	79,000
St. Louis-San Francisco	....	....	17	6	....	178	....	84	285	396,190
St. Louis Southwestern	....	....	....	3	....	15	20	36	74	92,300
Sacramento Northern	....	....	....	....	....	....	....	7	7	2,880
Seaboard Air Line	14	....	6	54	54	114	44	62	348	541,220
Southern Pacific (Pacific)	....	....	1	42	....	452	....	162	657	910,130
Southern System	....	....	....	35	14	324	70	174	617	842,900
Spokane International	....	....	....	....	....	....	....	9	9	9,000
Spokane, Portland & Seattle	....	....	....	1	....	42	....	25	68	89,320
Staten Island Rapid Transit	....	....	....	....	....	....	....	8	8	6,800
Tennessee Central	....	....	....	....	4	6	....	5	15	19,720
Texas & New Orleans	....	....	....	12	....	56	....	67	135	174,260
Texas & Pacific	....	....	....	10	....	64	....	24	98	140,800
Texas Mexican	....	....	....	....	....	4	....	14	18	16,120
Toledo, Peoria & Western	....	....	....	....	....	10	....	3	13	18,000
Union (Pittsburgh)	....	....	....	....	....	24	....	95	119	117,540
Union Pacific	....	....	....	65	....	287	....	199	551	764,480
Wabash	....	....	6	8	....	81	....	72	167	216,620
Western Maryland	....	....	....	....	....	31	....	23	54	66,560
Western Pacific	....	....	....	....	....	51	48	28	127	165,380
Total	36	11	119	**1,275	283	5,647	1,173	5,603	14,147	18,441,987

** Includes 34-1800 horsepower units.

Note: Since the number of Diesel-electric locomotive units in the above tabulation were based on A. A. R. statistics, only those units, received by the railroads from the builders, that were reported to the A. A. R. as installed in 1950, were included.

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STANDARD ENGINEER'S REPORT

DATA

LUBRICANT	RPM Delo R.R. Oil
UNIT	Locomotive diesel engines
SERVICE	Freight and passenger
OPERATION	Local and transcontinental
MAINTENANCE	Progressive

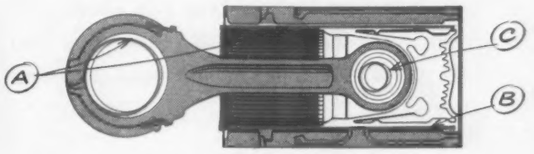
One million miles of service from engine parts!

LUBRICATED WITH RPM DELO R.R. OIL, many diesel engines in the locomotives of U.S. railroads have been in service for long periods without complete overhaul! Many of the liners, pistons, bushings and other parts in these engines have now been in use for hundreds of thousands of miles. Progressive maintenance inspections indicate that RPM DELO R.R. Oil will keep the parts in service for at least one million miles, the general overhaul period set by some of the railroads.

RPM DELO R.R. Oil keeps parts clean and free of wear-causing lacquer and gum deposits and is not corrosive to engine metals of any kind.

IN OVERLAND MOUNTAINOUS FREIGHT SERVICE for nearly 500,000 miles, this liner, lubricated with RPM DELO R.R. Oil has less than 0.006 inch wear and taper is so minor that it is barely measurable.

How RPM DELO R.R. Oil prevents wear, corrosion, oxidation



A. Special additive provides metal-adhesion qualities...keeps oil on parts whether hot or cold, running or idle.

B. Anti-oxidant resists deterioration of oil and formation of lacquer...prevents ring-sticking. Detergent keeps parts clean...helps prevent scuffing of cylinder walls.

C. Special compounds stop corrosion of any bushing or bearing metals and foaming in crankcase.

THIS PISTON AND CONNECTING ROD have been in service for more than four years. After picture was taken it was put back in the engine for further use. Note the excellent condition of the rings and bearing. All the rings are free, oil holes open and there are no troublesome deposits in any ring grooves.

FOR MORE INFORMATION about this or other petroleum products of any kind, or the name of your nearest distributor handling them, write or call any one of the companies listed below.

RPM DELO LUBRICATING OILS

TRADEMARK "RPM DELO" REG. U.S. PAT. OFF.

STANDARD OIL COMPANY OF CALIFORNIA • San Francisco
THE CALIFORNIA OIL COMPANY • Barber, N.J., Chicago, New Orleans
STANDARD OIL COMPANY OF TEXAS • El Paso, Texas
THE CALIFORNIA COMPANY • Denver, Colorado

APEX Axle Turning Tools for Journals

ERIE'S MANY FRIENDS are joined by Apex in commemorating 100 years of service from Lakes to sea. Apex helped along the way by furnishing tools to keep Erie wheels rolling. As in the past, we shall always be glad to co-operate with maintenance problems.

THE APEX TOOL & CUTTER CO., INC.
SHELTON, CONNECTICUT

Congratulations to the **ERIE** for its marvelous record.

Best wishes for the **SECOND HUNDRED**

A. STUCKI CO.
SIDE BEARINGS
PITTSBURGH

CAR HARDWARE
and Replacement Parts

Barnaby now supplies products such as these to a number of the country's leading railroads and car builders. Let us show you how we can serve you . . . dependably and economically.

White Bronze, Bronze and Cast Iron End and Vestibule Door Locks . . . Hinges . . . Vestibule and Platform Trimmings . . . Sash Fixtures . . . Hooks, Sash Lifts, etc. . . . Baggage Racks (to specifications) . . . Grease Fittings . . . Locomotive and Diesel Engine Replacement Parts (to specifications) . . . Railroad Gauges, to A.A.R. Manual of Standard and Recommended Practice.

Barnaby MANUFACTURING COMPANY, INC.
70 KNOWLTON STREET • BRIDGEPORT 8, CONN.

1851 100th ANNIVERSARY 1951
Great Lakes to the Sea
Erie Railroad

SCRANTON, PA-
THE ERIE RAILROAD CO.
CLEVELAND, OHIO

CONGRATULATIONS TO A LEADER AMONG RAILROADS

RAILROAD SUPPLY AND EQUIPMENT INC.

EXCLUSIVE DISTRIBUTORS
AMESTEAM GENERATORS-

POAGE
Water Columns
for servicing Diesel locomotives

Two outstanding features of the POAGE Diesel Water Columns are:

1. Incorporation of the POAGE Water Hammer Eliminator in the valve chamber; prevents damaging water hammer in the supply line after the valve is shut off.
2. Draining of vertical column after service; eliminates necessity of costly frost boxes around the exposed section of the vertical column to prevent freezing.

POAGE Diesel Water Columns have been operated in sub-zero temperatures with continuous satisfactory performance.

Congratulations to the Erie Railroad for the excellent service rendered to the public for the past 100 years.

RAILROAD PRODUCTS CO.
Cincinnati 14 Ohio

Ex-Cell-O hardened and ground steel pins and bushings

Congratulations, ERIE

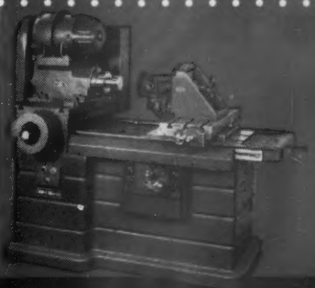
Ex-Cell-O extends its heartiest congratulations to the Erie Railroad on its centennial celebration. The way in which the Erie has kept pace with the growth of the American economy is a tribute to the vitality of our free enterprise system. Ex-Cell-O is proud to list the Erie among the more than 200 American railroads and equipment builders it serves.

XLO
EX-CELL-O for PRECISION

Continental Counterbore Set No. 1—part of Continental's line of standard and special cutting tools

Ex-Cell-O bushings for reclamation work are used on freight car brake-beam struts, switch stand parts, and tie tamper housings.

Ex-Cell-O Style 49 Tool Grinder for medium and large size tools



Ex-Cell-O 112-C Precision Boring Machine, tooled for reconditioning air-brake valve parts

51-27

EX-CELL-O CORPORATION
Detroit 32, Michigan

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STANDARD GAUGE FREIGHT CARS

Box, Single Sheathed, 40 & 50-Ton
Gondolas, Composite, 70-Ton
Hoppers, Covered, All-Steel, 50 & 70-Ton
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Hoppers, Triple, All-Steel, 70-Ton, Cross Dump
Stock, 40-Ton, Single Deck
Tank, 10,000-Gallon, Class 111
Tank, 8,000-Gallon, Class 11

EXTRA LONG FLAT CARS

40- & 50-Ton Capacity, Length 70' to 74'

STANDARD GAUGE DUMP CARS

End Dump, 10-Yd., 30-Ton, Lift Door
End Dump, 20-Yd., 50-Ton, Drop Door
Side Dump, 16-Yd., 40-Ton, Lift Door
Side Dump, 20-Yd., 40-Ton, Lift Door

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Gasoline—10-Ton to 25-Ton
Diesel-Mechanical—8-Ton to 30-Ton
Gasoline-Electric—35-Ton
Propane-Electric—70-Ton

One 50-Ton, H. K. Porter, Type 0-4-0, Oil-Fired, Steam, Built 1942

PASSENGER EQUIPMENT

All types of Passenger & Baggage Equipment, including Self-Propelled!

4 ALL-STEEL DINING CARS, AIR-CONDITIONED

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